THE

DUBLIN QUARTERLY JOURNAL

OF

MEDICAL SCIENCE.

MAY 1, 1863.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VIII.—*Reports in Operative Surgery.* Series 8th. By RICHARD G. BUTCHER, Honorary M.D. Trinity College, Dublin; M.R.I.A.; Chairman of the Surgical Court of Examiners, and Examiner on Surgery in the Royal College of Surgeons in Ireland; Fellow and Licentiate of that Body, and late Member of its Council; Surgeon to Mercer's Hospital; and Lecturer on Clinical Surgery.

THE present paper, in continuation of my "Reports in Operative Surgery," contains, I conceive, a few of the most interesting cases that could, by possibility, be submitted to the profession; and because so, according to my judgment, I have selected them from amongst many abounding in difficulties.

CASE 1.—ELEPHANTIASIS ARABUM, AFFECTING, IN THE MOST FORMIDABLE WAY, THE LOWER EXTREMITY, SUCCESSFULLY TREATED BY LIGATURE OF THE FEMORAL ARTERY.

CASE 2.—A FOURTH SUCCESSFUL CASE OF EXCISION OF THE KNEE JOINT; ALL THE FUNCTIONS OF THE LIMB FULLY PRESERVED, WITH THE EXCEPTION OF THE KNEE BEING RENDERED FIRM AND RIGID (*the perfection of cure*); NO DEFORMITY WHATEVER.

Case 3.—successful excision of the entire upper jaw and palate bone, for an enormous fibro-vascular tumour; terrific intermediary hemorrhage; ligature of the internal maxillary artery; digital compression kept up continuously, night and day, for fifty-eight hours, upon unusual nutrient vessels; perfect recovery.

Case 4.—successful excision of the entire upper jaw and palate bone, for a very large osteo-sarcomatous tumour; ligature of the internal maxillary artery; rapid recovery, with scarcely a trace of deformity.

Case 5.—a most unusual and hideous form of double hare-lip, complicated with double-fissured palate; enormously developed septum and inter-maxillary projection, all fused into a shapeless mass; operation; recovery, with scarcely any deformity.

Case I.—*Elephantiasis Arabum, affecting the Lower Extremity, Successfully Treated by Ligature of the Femoral Artery.*

The disease, elephantiasis arabum, though being a rare and unusual affection in these climates, yet occasionally presents itself as attacking the vulva, the scrotum, and more frequently, the inferior extremities. At the same time, I do not wish to convey that it is confined in its localization to these particular parts of the body. I met with it, years ago, in a well-developed form, affecting the hand of a young woman; and of this remarkable case I have a fine cast in my collection. At present I shall confine my observations to the disease, as affecting the lower extremity.

Not unfrequently the affected person solicits the aid of the operating surgeon when all medicinal agents and applications have failed to restore the limb to usefulness; or, later again, when they prove inert, totally abortive, valueless in alleviating pain or procuring repose. Pathological inquiry unveils the progressive disorganization, in extreme cases, of the bones, as well as of the soft parts, and the manifest alteration in their vessels of supply. Yet here the exposition stops; there has been, to the present time, no revelation of the mysterious influences which bring them about—that wrought them.

The person afflicted with this intractable malady, finding no mitigation of pain, appeals at last, I say, to the operating surgeon for the removal of the limb; and such a demand has, necessarily, in many cases, been complied with. Yet this extreme resort has proved itself not always successful, the disease returning on some other member with all its original inveteracy and obstinacy. Great credit is due to the judgment and skill of Professor Carnochan, of New York, who devised a successful treatment for this complaint—even the bold step of ligaturing the main artery of the limb.

The following case gives a faithful picture of the disease, as well as of the application of this new operation—ligaturing the femoral artery—with a view to modifying the morbid nutrition of the limb, now, for the first time, performed in either this country, England, or Scotland:—

Margaret D., aged 44 years, admitted to Mercer's Hospital, Nov. 6th, 1861, suffering, in a most pitiable way, from elephantiasis of the right lower extremity. During the last 18 years she has been, in a mitigated or increased degree, labouring more or less under this affection. Years ago, even before the above date, the limb imperceptibly, at least unperceivedly, became "weighty," "dull in its movements," and quickly tired on exertion. Months passed over without any marked symptoms appearing to create alarm or distress. However, about the time noted above, a change became so manifest, evidenced by a gnawing, dull aching in the part—persistent, unchangeable, unalterable, day or night—that willingly she sought advice. Various means had been tried to check the increasing size of the foot particularly, for here, first, the increase of volume was perceptible and marked—changes that, in a short time, were propagated to the leg. Gradually and steadily, for years, accessions of engorgements had taken place. Over and over again depositions, it would appear of new material, had been superadded, with only occasional periods of repose. Compelled thus, I would say, she inquired and sought after relief; and though some of the expedients adopted had been felt to temporarily arrest the morbid degeneration, and the painful augmentation of bulk, and thus for a time afford comparative relief, yet never was the part seized on by active plethora without its traces and evil consequences—additional deposits—testifying to its having been there. Thus, year after year of suffering and confinement passed by, relief only being experienced sometimes, and in a slight form; and she

had to endure privations, more or less, from inability to follow her occupation as a laundress with steadiness and certainty.

Over and over again she sought relief both from private and hospital resources; but the best directed efforts were only palliative, and that as long only as perfect rest, quietude, and repose were adhered to in the recumbent posture; and these restrictions were incompatible with her mode of life—her means of subsistence. A few hours walking about would reproduce an excess of swelling and exacerbation of pain, with all the bursting engorgement, that it took weeks to partially disperse, as I have myself witnessed. Several times she solicited the removal of the limb, so great a burden had it become.

On her admission to Mercer's Hospital, her condition was most painful to witness—her case truly pitiful. Neither by day or night could she obtain sleep or rest, owing to "the terrible pain in her leg and foot;" and certainly the limb presented a most serious aspect, engorged to that extent with bright arterial vascularity in parts, that might have been supposed to threaten its vitality by excess of action—conditions most manifest about the calf and two upper thirds of the leg. The foot exhibited a more subdued colouration; yet, over all, pressure was inconvenient, in many parts painful, in some intolerable. Again, the discoloured part above was tense, polished; while about the ankle, the integuments presented large, elevated, thick-set welts and nodules, covered with an irregularly projecting scaly coating, almost resembling patches of icthyosis. The dorsum of the foot and outer ankle were particularly marked in this way, while deep sulci crossed the anterior aspect of the ankle, which was devoid altogether of such an arrangement of tegumentary membrane, being smooth, pinkish in shade, and, as it were, bound down or matted to the anterior annular ligament, while the elongated masses of the pendulous integument of the leg above, overhanging these deep sulci, and of the dorsum of the foot, inferiorly were rugous in the extreme, and discoloured with a brownish hue. Owing to the repeated attacks of engorgement, the toes at length suffered, and a very unhealthy form of ulceration settled on each, beginning at the outer side of the great toe, and seizing in turn on each of the other four, and steadily, though slowly, destroyed their extremities—that is, their normal, healthy structure; leaving in its stead a replacement of irregular granulated masses, highly sensitive and impoverished in consistence; and this marked the only effort at repair. Such condition added greatly to

the sufferings of the patient, as in this mutilated state every laboured effort at progression was made by the imposed weight directed on the heel. Altogether the limb was of large dimensions, as exemplified in the plate executed by Mr. Forster from a truthful drawing.—(See Plate I.) The following were the measurements of the diseased limb as contrasted with the sound one:—

	Sound limb.	*Diseased limb.*
Thigh, above knee, - - -	15½ inches,	17½ inches.
Calf of leg, - - - -	14 ,,	19 ,,
Above the ankle, - - -	8 ,,	16½ ,,
Around arch and dorsum of foot,	10 ,,	15½ ,,

Having carefully considered the hopelessness of any further attempts, either by medicinal agents internally, or as external applications, and the uselessness of pressure and bandages to reduce, even temporarily, the massive proportions of the disabled limb, and not wishing to comply with the repeated entreaties of the woman to remove it by amputation, I naturally considered the expediency of ligaturing the femoral artery. At the time that Professor Carnochan's valuable paper, "Contributions to Operative Surgery," came to my hand I was very forcibly struck with the originality of his proposal; and, from all that I was acquainted with as to the pathology of the affection, I saw no valid reason to dissent from his views, or refuse to accept the truthfulness of his statements as he propounded them to the profession.

On the morning of the 25th Nov., 1861, I prepared to operate after the following manner:—The patient was placed upon the operating table, in the horizontal position, on her back, and brought under the influence of chloroform. During its administration she was comparatively quiet, yet not so tranquillized as might have been desired during the steps of an operation surrounded with considerable difficulty, owing to several causes—the natural bulk of the limb from excess of fatty deposition, the additional increase of its volume from abnormal changes, and, as a sequence from both, the great depth of the artery from the surface. Other hindrances were likewise foreseen, as shall presently be detailed. But to proceed with the operation. The thigh was very slightly flexed, and rotated outwards, and steadied so by assistants, above and below; the knife was first laid on its edge, applied about an inch and three quarters below Poupart's ligament, and at a point midway between the spine of the ilium and the crest of the pubes. This was selected as the

proper position—that in which the vessel might be found, for no pulsation marked its course, it lay so deep and buried; the artery could only be even imperfectly felt passing over the pubes, for it there seemed to recede so suddenly from the surface, deep down into the limb, that no information or assistance as to its course could be derived from the heart's impulse transmitted to its walls. From the point mentioned, then, the knife was carried downwards in the axis of the limb for fully five, nearer to six, inches, being rather over the external wall of the vessel—my object being to keep out from the saphena vein, which was very large and somewhat outside its usual position. The first stroke of the knife opened a wound to the extent mentioned, and, through the integuments, fat, and superficial fascia; the depth of adipose tissue was fully an inch and a half. A small opening was next made in the fascia lata of the thigh, a director passed beneath it from below upwards, and so it was divided throughout the entire extent of the wound, the knife traversing the groove of the director rapidly. At once the inner edge of the sartorious muscle came into view, as also a portion of the sheath of the vessels; the internal edge of this muscle was gently drawn outwards, and retained so by a retractor, while the opposite side of the wound was similarly held apart, and in the contrary direction. At the lower part of the wound, where the sartorious was crossing the vessels, the sheath was carefully raised up with a forceps, and a small opening made into it with the knife held horizontally, and its flat surface towards the vessels; the sheath was then slit to about half an inch, and instantly the femoral vein, filled with dark blood, was thrust up owing to its engorged state, rolling itself, as it were, over the arterial trunk, and projecting through the opening in the sheath.

The transposition this brought about demanded the greatest caution as to the method of procedure. I carefully passed a director between the vein and anterior wall of the sheath, and slit it to the extent of half an inch more; no turning off or unfolding of the sheath was had recourse to; this simple division released the artery in front; no meddlesome interference disturbed it in its bed, either vertically or behind, and the great advantage was gained of relaxation of the constriction apparently exerted on the protruded vein, and a facility was allowed for examining the condition of the artery and its relationship to the parts accompanying it. The enormously increased size of both vessels was now apparent. The vein, fully an inch in width, was gently lifted off the artery, and carefully

pressed downwards, backwards, and inwards, while the internal edge of the wound was held in a like direction; this arrangement brought into view, resting on the artery, the saphenus nerve, which was drawn outwards, together with the external edge of the wound. Thus the artery was exposed, and its appearance was by no means encouraging; it was of unusual dimensions, fully twice its natural size, if not greater; it was more flaccid and considerably paler than the artery when exposed in this region under the ordinary circumstances demanding its ligature; in other words, the artery presented more the appearance vessels of the same magnitude assume in the lower animals, as in the horse and the cow, than that met with in the human subject. Having thus proceeded, the next and difficult point was to pass the aneurism needle between the vein and artery without wounding the former. In ordinary cases this can be effected securely enough. In some cases of popliteal aneurism an unnatural intimacy is established between these two vessels, even so high up as the site under our immediate consideration; and I shall not pass on without mentioning the name of the enunciator of this practical fact, my deeply esteemed and most distinguished friend, the late Professor Porter. The intimate connexion, I repeat, between the vein and artery is, in some of those instances, so decided as seriously to endanger the integrity of the weaker vessel on the attempt being made to ligature the artery. I have seen the vein wounded in the attempt being made to pass the ligature round the artery, and suppurative phlebitis, as a consequence, destroying, in a short time, the life of the individual. In another instance I have seen the vein pricked with the needle; blood gush up rapidly, which was restrained until the artery was securely tied; compresses then carefully retained over the point of the bleeding vein; mercury administered quickly; salivation produced, and no ill consequences follow. The intimacy of the cohesion between the vein and artery in this region should never be lost sight of or under-estimated by the operating surgeon; for, in some instances, unless the aneurism needle be used with gentle, yet steady force, in the proper curve of the artery, it will go astray, and in preference, wound the coats of the vein so that the instrument may readily pass into and conduct the ligature through this vessel, thus transfixing it; and, when the cord is tied, the anterior wall of the vein is included in the noose with the artery, and strangled with it, occasioning inflammation of its lining membranes, diffuse in its character, progressive in its consequences, fatal in its result.

There is a beautiful preparation in the pathological department of the Museum of the College of Surgeons illustrating this fact. The preparation is marked B. c. 276 (Organs of Circulation), and was placed there by the late Mr. Rumley. He operated upon this case, tying the femoral artery for popliteal aneurism in Scarpa's space, and unfortunately wounded the vein and included a part of it in the noose with the artery, producing well marked symptoms of phlebitis, which quickly carried off the patient. Great praise is due to Mr. Rumley for depositing this invaluable preparation in the college as a beacon to warn others of the danger. And many will, I am sure, remember how earnestly he dwelt upon this case when examining upon the subject of the treatment of popliteal aneurism by ligature, when Chairman of the Court of Examiners of the Royal College of Surgeons in Ireland.

Having made this digression without, I am confident, diminishing or detracting from the practical utility of the case, I shall now dwell upon the manipulation I had recourse to for the safe guidance of the ligature under the extreme difficulties met with in the remarkable example I am detailing. The lips of the wound being steadily held apart, by retractors in the hands of assistants, the vein was pressed inwards and backwards, together with the internal side of the divided sheath, and fixed so by the index finger of my own left hand. Marking well the line of junction of the vessels, the knife was lightly and gently drawn vertically upon it, so as merely to divide the most anterior connecting shreds—and this only for about a quarter of an inch, just to permit the point of the aneurism needle to be fairly laid between the coats of the artery and that of the vein. The right hand, considerably depressed, holding the needle, permitted its curve to lie first over the anterior wall of the artery, its point resting on the prepared space for it just mentioned. The handle of the instrument being then gently elevated, and gradually yet steadily brought forward, while all along a force was communicated to the instrument, pressing its point deeper, at the same time in a semicircular way, well up to the artery; all the time in this movement an up and down motion in the axis of the vessel was employed, the more gradually to insinuate the point as it progressed round the vessel; and so the instrument was safely made to appear on its external side, with a shred of fibrous membrane over it—which, being divided by a touch of the knife, left its eye exposed for the ligature. A firm well-rolled waxed silk ligature was passed through it, and then the

instrument withdrawn, conducting, by this backward movement, the cord safely beneath the artery. The strain of the retractors being taken off, and all the parts moderately relaxed—the artery entirely so—the ligature was tied, and resolutely so, in order that the internal coats of the vessel might be fairly divided. The first tension on the cord was not hastily made; a little dexterous manipulation was employed to ward off—to deliver the artery from being corrugated in the constriction, owing to its inordinate size. So far the difficulties were overcome—the integrity of the vein unharmed; the artery tied so as to secure division of its coats with but little disturbance of it in its natural bed. One end of the ligature was now cut away, and the other brought directly through the wound, the lips of which were accurately laid in apposition, and retained so by six points of wire suture, between each of which a long strip of adhesive plaster was placed, and effectually supported three-fourths of the circumference of the limb, thus securing the maintenance of contact throughout the entire depth of the wound. The foot and leg beyond the knee were equally rolled with a flannel bandage, so as to yield the gentlest pressure, and to afford heat, or guard against its abstraction. The patient quickly rallied from the chloroform, and was then carefully conveyed into one of the small wards adjoining the operating theatre, and placed in a bed, comfortably heated. The limb was slightly flexed, and gently rotated partially outwards, and supported and sustained evenly, on all sides, in this attitude, by soft pillows.

In an hour after the operation the limb fell remarkably in temperature, and a good deal of pain was complained of about the knee and ham, when, in addition to the flannel bandage, the limb was wrapped up in cotton wadding, and heated jars placed along its sides, and also to the sole of the foot; a large opiate, with wine, was given, and repeated in two hours.

4 o'clock, p.m.—Heat perfectly restored throughout the limb, from one extremity of it to the other, and the pain considerably diminished. The patient had some sleep at intervals. Opiate and wine repeated.

9, p.m.—Heat of limb considerably increased, so removed the entire of the cotton wadding, leaving the toes only covered by it. The patient now free from all pain. The opiate to be repeated twice in the night.

Nov. 26th.—Slept occasionally through the night. Pulse 98; steady in its beat. Complains of some nervous pains about the knee

and ham; no tenderness in the wound, which looks most satisfactory. She referred some spasmodic pains to the abdomen, such as she was frequently in the habit of experiencing before the operation. *Now*, as formerly, they yielded to very hot turpentine stupes.

On stripping the limb, it was observed by all the students how warm and natural was its temperature; and when tested by the thermometer it proved equal to the sound one, while the most striking characteristic of all was evidenced in the diminution of its bulk, the integuments in some places being absolutely flaccid. I again carefully rolled the foot and leg with a flannel bandage, to above the knee, gently and with a very equable support, then rested it throughout upon the pillows as before, slightly flexed at the knee, and somewhat rotated outwards. The opiates to be continued through the day.

4, p.m.—Going on most favourably, the nervous pains sometimes absent altogether. Expresses herself as deriving the greatest comfort from the increased pressure effected by the readjustment of the bandage. Temperature of the limb excellent.

9, p.m.—No pain, and inclined to sleep quietly.

Nov. 27th.—Slept for lengthened periods uninterruptedly; no pain of any amount. Bandage slackened; yet I did not wish to disturb the limb, even by lifting it, so soon again, for fear of interfering with or interrupting the reparative process in the wounded artery. Opiates freely; four ounces of wine, and beef tea.

9, p.m.—Has spent a quiet day; scarcely any nervous pain.

Nov. 28th.—Slept well; took some breakfast with appetite; limb free from pain. Readjusted the pillows. No tenderness or uneasiness about the wound; foot and leg preserving their natural temperature. To have beef tea, four ounces of wine, and full opiate at night.

Nov. 29th.—Slept well; pulse, 98. No pain in either wound or limb. Removed the bandage; limb reduced as to bulk in a most remarkable way, and its natural temperature perfect. Another very important change has been brought about—the absence of the acute sufferings which the patient experienced in the ulcerated and eaten-away toes. I dressed them to-day without pain, though hitherto she experienced the greatest agony on their being touched. New skin is forming in many parts, whilst in others cicatrization and healing is established—the excess of vascular action being removed, which, according to my views, killed and perished them, as parts die from excess of inflammation. To continue full opiate at night, four ounces of wine, beef tea, and bread.

Nov. 30th.—Complained of great sensitiveness and pain in the wound this morning. On examination, parts were reddish, and evidently pus pent up; so I clipped, with a scissors, the adhesive straps, and cut two of the wire sutures and withdrew them. Matter appeared at the centre of the incision. No undue pressure of any kind was exerted upon it, and the tender, sensitive wound was covered with a soft linseed-meal poultice, half-an-hour after which all pain dispersed. Took her food at the regular hours, as usual.

3, p.m.—Free from pain; opiate repeated.

Dec. 1st.—Pain absent during the entire night, and she slept quietly. The wound looks well, matter oozing up from the vicinity and around the ligature. All redness and puffiness gone. Temperature of the limb admirable. Poultice continued, and full opiates repeated every third hour, so as to quiet the whole system, and so act as a guard against hemorrhage.

Dec. 2nd.—No pain; wound suppurating; tenderness all gone; limb greatly diminished in bulk; wine, four ounces; beef tea; and full opiates every third hour; poultice still continued to the wound.

Dec. 3rd.—Wound suppurating kindly; to continue the opium.

Dec. 5th.—No pain whatever; wound flaccid; no redness; ligature lies quiet; limb gradually diminishing; and ulcers on the toes just healed.

Dec. 12th.—Wound all healed except where ligature comes out.

Dec. 15th.—Wound quite firmly united, except the immediate point where the ligature comes out. The cord has been most carefully protected, all through, lest any sudden drag or violence should be offered to it. The diminution of the bulk of the limb is still progressing in a very remarkable way.

Dec. 22nd.—A most striking change has taken place in the cuticular covering of the limb, all the scales have dropped off, leaving the skin smooth and even on the surface; the patient has now the power of moving the toes quite freely, and they, too, are greatly reduced in volume. Ligature still in its place, the slightest trace of purulent matter along its track; no attempt whatever made to hasten its detachment by that reprehensible practice of pulling gently upon it from time to time.

Dec. 26th.—I cannot express the satisfaction which I felt this day at finding the ligature safely cast off, and lying on the cicatrix, 31 days exactly after its application. Limb remarkably reduced since last adjustment of the bandage; applied one with greater firmness than before.

Dec. 28th.—Wound all healed now, the track of the ligature being sealed up.

Jan. 6th.—Diminution, progressive of the limb; administered mercury so as slightly to bring the system under its influence, and had the limb freely anointed with iodide of lead and iodide of potash ointment; frictions with this application were had recourse to morning and evening, caution being observed that no breach of surface might be occasioned, yet at the same time pressure of a moderate and steady kind was insured, and the dressings so saturated with the compound that the absorbents were stimulated and assisted in their action as far as could be accomplished. For four months this treatment was energetically and strenuously carried out, and so likewise gradually absorption was promoted. Soon the motions of the ankle joint were moderately permitted; but as the great, massive, dense welts of morbid tissue, above and below the angle of flexure, were removed, so likewise the movements became more extensive, and, as time passed on, were at length gradually perfected. The motions of the great toe—which, together with the four others were locked, as it were quite removed from under control by the massive preponderance of new material—to a certain extent participated in the same marvellous change. I have qualified the amount of restoration; for two of them, the second and third toes had grown together, were matted into each other by early ulceration, granulated surfaces side by side, pressed closely to each other and cicatrized. However, the most important portion of this part of the foot, the great toe, became perfectly loosed—its actions perfect. At this time the patient regained full control over the motions of the foot, evidenced by complete flexion and extension, without the slightest pain. To so great an extent was the limb reduced, and so soft and pliable had the tegumentary covering become, that the tendons and muscles could be traced in their course, as they started out in action, when performing their movements; altogether the size of the limb was but little larger than its fellow. At the end of the sixth month the patient was able to walk well upon the limb, without pain or uneasiness; she expressed herself as feeling an indescribable relief from the burden which had so oppressed her for years. Though moving about and walking through the wards all day, no additional swelling followed, and never a return of pain. Shortly after this the patient left the hospital and resumed her occupation as a laundress; frequently since I have heard the most satisfactory reports as to her condition,

and the ability with which she is able to pursue her laborious business throughout the whole day, standing nearly the entire time, yet neither swelling, fatigue, or pain is occasioned by her doing so; the precautionary application of a bandage is never dispensed with. So far as the history now goes the case has, I would say, been eminently successful; as to the permanent nature of the cure, time has not yet sufficiently passed by so as to afford a practical answer.

Case II.—*A Fourth Successful Case of Excision of the Knee Joint; with the exception of the Knee being rendered Firm and Rigid* (*the Perfection of Cure*), *all the Functions of the Limb Fully Preserved; No Deformity whatever.*

I have great pleasure in publishing this my fourth successful case of excision of the knee joint. It is a fine example of all that may be achieved. I have only operated upon the four cases; all have been equally successful, as the published records can testify. While I wish to direct the attention of the profession to this, the last, I claim my right to stigmatize the pusillanimous efforts of those who, knowing but little about the operation, strive, with an unworthy motive, to silence truth. I recently brought this most important subject before the Surgical Society of Ireland. It will be seen by a reference to the *Medical Press* (February 11th, 1863), how significantly the opinions of all those practical hospital surgeons who spoke harmonized in their approbation of the theme, and, according to the definite bearings laid down to a demonstration, lauded and upheld the propriety of the measure. Such an approbation, emanating from such an ordeal, should be quite sufficient, in my mind, to calm the sceptical. If the mariner errs from the track laid down, marked in difficult shoals, by his obstinacy or incapacity for decision, the fault does not rest with him who has buoyed the path. I regret deeply that time does not permit me now to complete some strictures, and severe ones, too, which I am engaged in drawing up upon the cases which have been published, and the tables derived from false data, upon this most important operation. It seems abundantly clear, from the facts collected by Dr. Hodges, as well as from the practice of Langenbeck, that the operation has been far too confidently adopted, and that the great proportion of its failures arises from operating on diseases or on patients unfitted for its use.

What can we say of resections for malignant disease (Langenbeck, table No. 183)? Surely such operations as excision of the knee

for malignant disease of the patella can have but one issue; yet in Langenbeck's table several excisions are mentioned as having been undertaken on account of tumours, which are either examples stated to have been malignant, or which in all probability were so; of resections performed on children four years of age, who die of caries of the spine before the wound has had time to heal (*Ibid*, No. 188); of resections undertaken for acute abscess of the joint when pyemia had already commenced (*Ibid*, No. 184). Except that, notwithstanding the reputation and authority of the surgeon in whose practice they occurred, they are merely examples of what ought to be avoided, and of a style of operating which tends to retard the science, the art, and the progress of surgery.

Joseph Magher, aged 20, admitted to Mercer's Hospital, Feb. 14th, 1862, with incurable disease of the knee joint. A year and a half before the above date the man was suddenly seized with acute pain in the left knee joint, after a long and wearying walk. Next day he could scarcely move the leg upon the thigh, so sensitive and alive was the part to pain on the slightest disturbance. This state continued for more than a week; but ultimately abated by rest and confinement to bed, by repeated application of leeches, and constant stuping of the part. At length, at the expiration of nearly four weeks, the man was enabled to go about, making very imperfect use of the limb, marked by a considerable halt and unsteadiness in progression. From this time, consecutively, at intervals of a few days, up to four weeks before his coming under my charge, he was repeatedly compelled to yield, and give the limb rest. At the latter date he became perfectly invalided, incapable of placing the leg under him at all, and subjected to the most wearying, gnawing pain in the joint; and now all his sufferings became gradually augmented: the joint became more swollen, more discoloured, and more sensitive to increased agony on the slightest touch. Consonant with these local annoyances were the constitutional disturbances evoked—fever developed in its most marked and typified form. I shall endeavour to describe briefly the local and constitutional changes manifested when he was received into hospital. I saw the patient lying in bed; and on stripping down the clothes the serious nature of the disease was remarkably portrayed—the thigh and leg were thinned and emaciated, while the normal configuration of the knee joint was altered altogether. Above the knee and in its lateral boundaries the increased dimensions were most marked, dependent upon two

causes—owing to enormous effusion of pus and serum within the joint, and throughout the entire extent of the great bursal structure beneath the extensors. Thus the lower end of the thigh was rendered most conspicuously prominent, while the internal wall of the joint was very defined and sharp, depending upon morbid alterations effected in the internal condyle of the femur and the corresponding articular surface of the tibia. The limb was flexed, the leg upon the thigh, the patient resting towards the left or affected side; the knee and leg well propped up, supported by pillows, while, to steady the foot below, the right one lay, as it were, acting the part of a cushion under it. The integuments over the entire joint were discoloured in the extreme, being of a purple livid hue along the internal surface of the joint, and above and below for several inches. The slightest weight upon the part caused the greatest suffering. The lightest manipulation was at once resented by spasms of the limb and screams from the patient. The gentlest movement of the patella backwards, or of the leg upwards against the femur, seemed to evoke them in the most formidable way. The whole line of junction, corresponding to the articular surfaces of the femur and tibia, when brought in apposition, was easily tracked out by the point of the finger gently passed along, though concealed deep beneath the external depositions and effusions already adverted to as distorting the natural configuration of the joint.

From this examination it was quite apparent that thickening of the synovial membrane—chronic changes which had been slowly, steadily going on—had now reached their maximum; that the cartilages of incrustation, both of the tibia and of the femur, had likewise been attacked, and had perished extensively—nay, more, that even the bones were implicated, and had become accessary to the fearful suffering and constitutional derangement. So violent was this constitutional sympathy, attendant on the rapid disintegration of parts, that life was seriously threatened. The patient had no sleep, day or night, nor did he even by the use of opiates doze for awhile. The limb was convulsed, and jerked from the bed with agonizing pain. The apprehension of this terror made him vigilantly guard and struggle against repose when the pain was mitigated or subdued in its character, for at intervals there would be short respites; sleep might be had were it not for the certainty of this formidable intruder. The countenance of the patient bore testimony to his sufferings. He had an affrighted look from over watchfulness; his eyes were bright, anxious, vigilant; the face thinned and flushed; the

hair dull, standing, matted from dried perspiration; the whole body emaciated, fingers appearing elongated, transparent; respiration short, rapid; pulse, 130, small, weak; speech quick, irritable. Before the patient came to hospital the sweats were profuse, night after night, and constantly alternated with diarrhea. The same distressing elements of hectic were as fully manifested after his admission. The most careful examination of the chest was made, and no deposition or impaired structure could be discovered in the lungs. The same rigid inquiry was likewise applied to other vital organs and to other cavities. After a most painstaking investigation the conclusion I arrived at was, that the fearful irritation, the destroying fever, was occasioned by the diseased joint, disintegrated throughout; and experience pointed now to operative surgery as the only means by which to rid the system of its source of pollution. After the most minute examination of the part, I came to the conclusion that the case was well adapted for excision of the joint. The bones did not seem extensively engaged beyond their articular surfaces; and, though I had no doubt of the total disintegration of the articular surfaces, yet there was no distant enlargement to lead to the inference that amputation should be had recourse to. This was my own firm conviction, and I decided upon excision; and on the 19th of February, 1862, I operated according to my usual custom, and after the following manner:—

The patient, supported by students in the horizontal posture, was brought into the operating theatre; the limb steadied at its angle of flexure on a long piece of board, to guard against the least shaking of it—the same which he had used on his removal from the country. I lay stress upon this mode of management, as confirmatory of the disorganized condition of the joint, which could scarcely bear the least tremulous motion even, without eliciting pain of the most acute character. Chloroform was now used with its most perfect effect—calm, total insensibility.

Standing on the left side of the patient, I divided the soft parts by a bold deep stroke of a heavy scalpel. The wound commenced below, over the head of the tibia, and was carried directly upwards for five inches, laying freely open the inner wall of the joint. An incision, similar in extent, commencing over the head of the fibula, was carried upwards through the outer wall of the joint; the two were then connected by a transverse cut below the patella; this at once laid freely and fairly open the joint; the superior flap was dissected upwards; then flexion of the limb was forced, to put the

fibrous structures externally and within the joint fully on the stretch, and so facilitate their more ready division. The former included shreds of the lateral ligaments, and spread out fibres of the involucrum, whilst the latter embraced the crucial ligaments which had only partially perished, a limited destruction which will most satisfactorily account for the non-displacement of the articular surfaces of the tibia and femur from their rightful axis. The parts being thus divided, the lower flap was detached somewhat downwards, whilst the edge of the knife was kept very closely up to the posterior surface of the tibia and back of the condyles; the immediate connexion of parts were thus thoroughly freed from their adherence to the line beyond the articular surface on either bone; and this is all that is requisite, as then the finger will detach, by vigorous pressure, the soft parts from the bones to the required extent, in this their posterior aspect. By this simple manipulation the artery is not only secured from injury, but it remains undisturbed in its bed, and the popliteal space is not encroached upon or its anterior wall broken up. The extremities of the long bones being thus denuded to the required extent, I dissected out the patella from the upper flap; it was scarcely diseased—only to a very small extent; the margin of its cartilage was highly vascular, and its edges softened; but, independently altogether of its aberration from a healthy state, I removed it as a part useless to be kept. The extremities of the femur and tibia presented a very different condition; here the amount of disease was most marked; the cartilage over the condyles of the femur had nearly all perished, while that which remained hung in shreds; the osseous tissue was eaten away in some places to the depth of a quarter of an inch. The tibia presented a like disintegration of its articular surfaces; not only were the inter-articular cartilages altogether removed, but the cartilage of incrustation was eaten away to a great extent, there being no trace of that covering the external articular surface, while that covering the internal one was detached altogether, lifted up in the centre by sharp debris of bone—the bone subjacent being eaten away freely, and all depressions and cavities filled with a dark sanguineous fluid. I removed the exposed surface of the tibia by passing the blade of my own saw behind it, and cutting from behind forwards, removing a slice about half an inch in thickness; the proceeding was effected with great rapidity, and the section was all that could be desired; the bone was healthy, as revealed, and the surface smooth, and even as a die. In like manner, the section of

the end of the femur was made from behind forwards, the line of division passing about the eighth of an inch higher than the sulcus between the condyles; the edge of the fine saw being made to enter the bone exactly corresponding to where the soft parts were pressed back from it, a few cautious rapid movements of the instrument completed its separation. Thus, about an inch and a-half of the femur was removed; and in this was safely included all the bone that was diseased or implicated in the mischief. I shall here, again, impress the caution that was observed in the direction of the blade of the saw, so that when the femur was fairly extended in the horizontal position for adaptation to the tibia, the section might be perfectly vertical, so as to allow the most even adjustment—surface applied to surface throughout.

The cancellated texture divided by the saw was most healthy in character. I next clipped away, with strong curved scissors, masses of gelatinous material incorporated with the disorganized synovial membrane, and the extensive bursa beneath the extensor tendons, which likewise was deeply implicated, being thickened, discoloured, and vascular, and filled with fluid. So degenerated was all this tissue that I dissected the entire away. The bleeding was arrested by ligaturing four or five arteries. The limb was now brought, with facility, into the horizontal position, and it was astonishing how evenly and well the bones lay in apposition—throughout every point in contact. The anterior wound was brought together with four points of the silver suture, and the extremities of the lateral wounds, internal and external, were in the same manner approximated and retained together, while the centre of each was left free and gaping, to allow of the ready discharge of fluids. The limb, rigidly held, was then lifted from the table, and the box used by me for such purposes steadily slipped in; pads were so arranged that when the limb was let down its posterior surface was evenly supported throughout, the normal gentle curve of the ham being preserved; at the same time the heel elevated, pressed forwards, the entire member lying as straight as possible. The sides of the box were in turn elevated, the foot support put in to maintain the tibia pressed up to the femur, pads on either side so as to secure rest, to prevent wabbling. The anterior splint, the use of which in former papers I have laid so much stress upon, was then laid on, properly padded, the straps buckled round all, steadying the entire as one piece, while the body-belt was thrown round the trunk and fastened, so as to keep the long arm of the splint close to the side, and by so doing ensure the security of the limb in its proper axis.

The patient rapidly rallied from the effects of the chloroform, and was conveyed, perfectly supported in the horizontal position, from the operating theatre, and placed in a comfortably heated bed. So efficiently did the anesthetic act, that when the man awoke to consciousness he was astonished to hear that the operation had been performed, as he had not the least remembrance of pain.

A careful examination of the portions of bone removed confirmed, in a most striking way, the great accuracy of the diagnosis, and beautifully illustrated the total disintegration of the articular surfaces, with deep and wide-spread caries of the osseus tissue in numerous places, all indicative of incurable disease, and an efficient cause of the withering fever that threatened life.

Before proceeding with the history of the case, I must say a few words about this very valuable saw which holds my name, and is used by me in all resections and amputations. In a work recently published, entitled *A System of Surgery, Theoretical and Practical, in Treatises by various Authors*, I find allusion made to this most useful instrument, in a feeble, meagre article, forsooth, termed "Resection"—such a production, both in style and matter, as would place a second year's student last in his class. I perceive a review of the book in the *Dublin Medical Press* for February 18th; and I will allow the reviewer to condemn the ignorance and want of information displayed in an article which should at least yield the facts and directions laid down in every text-book, and recognized by all well-educated surgeons. The reviewer thus speaks:—"The chapter upon 'Excision of the Joints,' or, as we call it in Ireland, 'Resection,' is only remarkable for the suppression of everything Irish that has been done in this branch of operative surgery. Mr Butcher, who has been particularly prominent in resection operations, has had his name introduced only for the purpose of vilifying the saw recommended by him, which, says the author, 'is rather liable to bend, and the blade is apt to get loose;' though we find it difficult to understand how such can be the case if the saw be well manufactured, the blade properly screwed up, and the surgeon have learned how to run such an instrument lightly and evenly."—*Dublin Medical Press*, Feb. 18th, 1863, p. 170.

The objections urged against the saw are too contemptible for me to dwell upon. Its great advantages for the purposes of resection I have pointed out in my memoirs on the subject of excisions of joints. Every modern work on surgery, and surgeons who have worked in this department speak loudly in its praises. By a regulation of the

Army Board it must be in every case of instruments. Is not all this additional testimony in favour of my saw? Therefore I protest against incapacity robbing the instrument of its merits.

Again, when I brought the subject of resection of the knee joint, a few nights ago, under the notice of the Surgical Society of Ireland, the mode in which the bones were cut by this instrument was particularly adverted to by two surgeons well trained in the use of instruments. Mr. Smyly, surgeon to the Meath Hospital, thus expressed himself:—"He considered it was the introduction of this saw, by Mr. Butcher, and the cutting of the bones in the way in which he did, which were the means of reviving the operation. It was now, however, recognized; for which, he thought, they were also indebted to Mr. Butcher." And thus Mr. Stapleton, surgeon to Jervis-street and the Mater Misericordiæ Hospitals, gave his opinion:—"One thing seemed to him to conduce very much to the success of Mr. Butcher's operations, and that was the admirable way in which the bones were sawn."—*Dublin Medical Press*, February 11th, 1863.

4 o'clock, p.m.—Limb lying remarkably well; no startings, no pain; has had some sleep. Stomach a little nauseated, but quieted by warm punch and opium; has taken some beef tea. Ordered 15 drops of Battley's sedative every fourth hour.

10, p.m.—All sickness of stomach gone; has had some refreshing sleep.

February 20th, 9 a.m.—Had a comparatively good night; far quieter, he reports himself, and more free from pain than before the operation. All the startings in the limb have ceased; no sweat; pulse down 15 beats, being now only 110. Has taken breakfast, some tea and toast. Ordered beef tea and six ounces of wine through the day; and the opiate, as on yesterday, every fourth hour. The limb lies quite easy, and free from pain.

4, p.m.—Was summoned to see the patient at this hour, as much fluid, of a bloody colour, was escaping through the sides of the box. I carefully let down the sides, one after the other, and examined, cautiously, the wounds. A large quantity of serum, mixed with a trace of blood, poured out freely from the exterior surface, where the bursal structure was dissected away, and likewise down from beneath the lower flap; though the serous or watery escape was abundant, yet it was only tinged with blood, not calling for any more positive examination; reapplied the lateral pads, lifted again into place the sides of the box, and secured them by the buckled

straps, as before. During this examination, due precaution was taken to guard against the slightest disturbance of the limb, by gently pressing backwards the anterior splint, while an assistant maintained the leg, foot, and foot-board exactly in the same relationship to each other as they held previous to the sides of the box being let down. Opium continued.

February 21st.—The patient had an excellent night, much sleep, and, as he expresses himself, "relieved from a great load." The countenance is calm, soft, and evidently that of a person free from suffering. Has taken his breakfast with appetite; wounds dressed after the same order and management as on yesterday.

27th.—Sleeps and eats freely, with appetite; no pain complained of. Limb dressed, with the same cautious handling.

28th.—On this day removed the wire sutures binding the anterior flaps together. It was satisfactory to see that the intimacy of their union was perfect, and there was no discharge from beneath anterior extensive flap, and but little from the side wounds—that coming out quite healthy in character. Limb lying as straight as an arrow. Dressed as before, the side pads gently supporting the lateral parts forward, thus preventing the slightest tendency to pouching. Wine, six ounces by day, and the same quantity at night; eggs, beef tea, chicken, with opiate night and morning.

March 3rd.—Progressing most favourably. The same cautions in the daily dressing, letting down side splints alternately, &c.; and, as yet, the limb has never been raised from the box. To continue all kinds of nourishment.

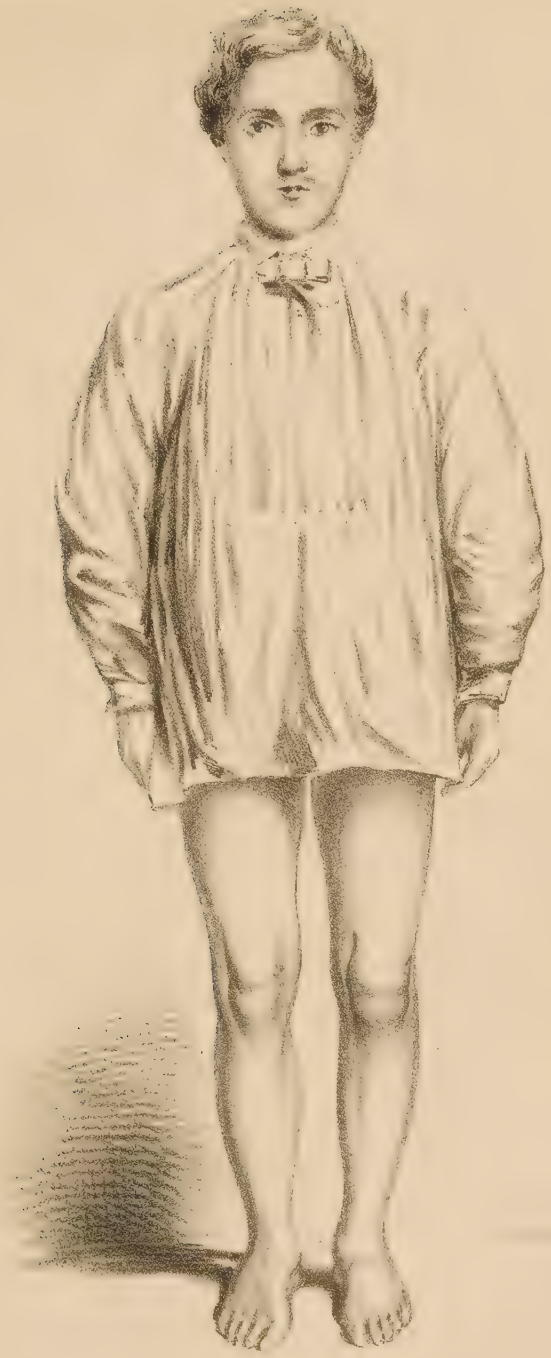
March 13th.—Patient's condition, in every way, most remarkably improved. Pulse 88; he sleeps well, eats abundantly, and with appetite; no sweats. He is visibly gaining flesh. Limb dressed daily; very little discharge, and that which flows quite healthy in character—the sides of the box being alternately let down, while pressure is duly kept upon the anterior splint. All ligatures away. The limb has not yet been raised from the box, though more than three weeks (three weeks on yesterday) have passed by; and by the great carefulness observed, the interior pad has not been unduly soiled or made offensive, so as to call for its disturbance. The patient removed to a fresh bed every second day, duly heated, prepared freshly for him, to secure against chills or cold.

March 17th.—Wounds very rapidly healing; external one nearly cicatrized. Suffers no pain in the wounded part or its vicinity. Eats and drinks with relish, and in abundant quantity. Pulse, 78.

March 27th.—It is now past five weeks by one day since the operation, and now, for the first time, the limb was raised from the box, and fresh pads placed beneath it. So quietly had it rested that there was not the least excoriation or irritability of the surface. The union between the bones seemed to have progressed in a most remarkable way, the bond of connexion being quite rigid and firm. At this time, likewise, all the constitutional disturbance had abated, a true evidence of the subsidence of all local irritation. Now, during the several months which the patient remained in hospital after this date, the same assiduous care was bestowed upon the limb, and so, likewise, the wounds healed gradually, the discharge diminishing. On two or three occasions the formation of small abscesses, that, after being opened and poulticed for a few days, healed up even more rapidly than the time which ushered in their appearance. Never did matter gravitate towards the ham, or indicate, even by premonitory effusions, a tendency in that direction, owing to, and I believe alone attributable to the lateral incisions being placed well back, particularly the external one, for the important reasons which I have already, in former papers, insisted upon with my whole voice.

During the treatment the patient had two attacks of erysipelas, contracted, as I believe, from cases in the ward; by proper management he was happily rescued from both. For many weeks (writing now, Nov., 1862,) he has been training himself to walk, of course by the aid of crutches. It is most remarkable the possession of motion and power over the extremity which the man possesses. He has full ability to flex and extend the thigh upon the pelvis, also the perfect motions of the ankle joint, and the full play of the muscles of the leg. The osseous union established at the site of the knee joint is, as it ought to be, perfectly rigid, not evincing the least tremulous motion—even when advantage is taken by force applied to the most distant extremities of the long bones implicated in the union. He is now a strong and vigorous young man, with the muscular system well developed, and fat freely deposited. His countenance bespeaks rude health, and there is a liveliness and contentment about him most remarkable when contrasted with the woe-begone and wretched-looking creature that he was prior to the resection of the joint.

The admirable likeness preserved in this paper, and drawn by the able hand of Mr. Connolly, faithfully represents his present state.—(See Plate 2). He has long since put aside the crutches, and can



Mr BUTCHER ON EXCISION OF

Forster & Co. Lith. Dublin

now walk about without stick or support of any kind. When he is at rest and dressed, it would be impossible to perceive any shortening or the least deformity, nothing that the most scrutinizing eye could detect; and when naked (I refer the reader again to the picture) the proportions of symmetry are almost preserved—the axis of the limb is somewhat straighter than the sound one, the gradual inclination of the thigh bone inwards being, of course, not preserved. The foot rests upon the ground, and is as firmly planted as the sound one. The muscular development of the leg nearly equals that of the sound one, while the thigh, by measurement, is fully as large. The vertebral column has compensated for the shortening of the limb, the spine of the ilium being nearly two inches lower than that on the right side; yet the head and shoulders do not droop; there is manifested no change from their strictly normal or horizontal position. The man walks with great freedom from the hip, the motions of which joint are as perfect and as much under control as if the limb had not been rendered rigid at the centre. All the movements of the ankle joint and tarsus being sedulously preserved, contributes, in a very marked manner, towards facilitating progression.

Case III.—*Successful Excision of the Entire Upper Jaw and Palate Bone for an Enormous Fibro-vascular Tumour; Terrific Intermediary Hemorrhage; Ligature of the Internal Maxillary Artery; Digital Compression kept up Continuously, Night and Day, for Fifty-eight Hours, by relays of pupils, upon Unusual Nutrient Vessels; Perfect Recovery.*

So far back as August, 1853, nearly 10 years ago, I wrote a long paper on excision of the upper jaw, in the pages of this Journal; and in it traced the history of the operation, and the various modes adopted, by surgeons of eminence, for its performance—illustrating my own views as to the best method of proceeding by my own practice. Again, in the number for May, 1860, I gave additional cases, where I only executed a very limited division of the soft parts, at the same time removing nearly the entire jaw bone. In the February number of the Journal for 1861, I was induced to again draw the attention of the profession to this operation—the time was just after Lizar's death; and I wished to offer to the memory of so great a surgeon—of him who originated this bold project—my tribute of homage and praise. Therefore, I selected from amongst the worst and most formidable cases that I had

operated upon, one presenting many points of interest and accumulated difficulties in its execution; and to it I appended many practical suggestions and details. The case was headed thus :— "Successful Extirpation of the Entire Upper Jaw and Malar Bone, for an Enormous Tumour Springing from the Former, Extensively Implicating Both, and Filling up the Parotid Region; Mode of Securing the Patient; Advantages of the Free Application of the Actual Cautery," &c. In all these reports the most accurate lithographic drawings were printed to illustrate the cases, and are well worthy of repeated inspection, so as to convey a lasting impression of what had been done. The cases which I now detail are likewise pregnant with interest, and come in well as examples of the management of furious hemorrhage complicating the operation of excision of the upper jaw:—

Mary Sullivan, aged 80, admitted to Mercer's Hospital, Nov. 8th, 1861, with an enormous tumour, extending over nearly the entire side of the face. She stated that, about 22 months ago, severe pain fixed in the second molar tooth of the upper jaw, on the left side. This pain was more distressing by its constant dull character than from any sharp exacerbations; in a short time the pain extended to two or three more of the teeth, and then it was considered to be neuralgic. At the end of about two months, the teeth began to loosen, and were exceedingly painful when pressed upwards. Soon the anterior part of the bone was complained of, and in February the cheek was slightly swollen. About this time the pain entirely left the tumour; and, even up to the time of her admission, never came back. In about a month later (March) it was becoming apparent that the anterior wall of the maxilla was becoming prominent, as if yielding to some pressure from within. This was the first direction the tumour took in a marked way, and gradually it bulged more and more forward, at the same time encroaching, in a very marked way, upon the nose. For the last seven months, the tumour has increased with a steady determination; and the following was the patient's condition when received under my care:—The tumour certainly was most formidable in all its bearings—(see Plate 3, from a beautiful picture by Forster)—extending from the superior orbital ridge above, to the margin of the inferior maxilla below, and from the ramus and angle of the jaw to the mesial line of the nose. But, to be more particular, on examining the mouth, the anterior part of the palate

Mr BUTCHER ON EXCISION OF THE UPPER JAW

plate of the superior maxilla, corresponding to the incisors, was firm and healthy; while that outside, and contiguous to the molar teeth, was depressed and softened. There was no projection of the growth backwards towards the pharynx, while the mesial line of the palate was not altered or encroached upon; here even the growth was disposed to take an anterior and outward direction, for, far external to the molar alveolar range, a large rounded mass projected and came down. The vascularity of the palate, or of the mucous membrane covering in this region, was not altered in intensity, while pressure and examination caused no suffering. The growth, which bulged outwards beyond the alveolar range, was hard, firm, and unyielding. The upward growth of the tumour was productive of much mischief; the floor of the orbit was raised from its bed, thrust up, partially removed by continued pressure, and the eye pressed upwards. The anterior and external development of the growth was most predominant—a tumour, as large as the two clenched fists, thrust out the cheek, superiorly passing above the eye and brow, occluding the eye, and dragging up the lower lid. Inferiorly, the growth passed on a line with the range of the body and angle of the inferior maxillary bone, while posteriorly it lay across the entire angle and ramus of the jaw, matted to, and incorporated with, the muscular tissue of this region. The tumour, in its backward direction, shot in between the maxillæ. The nasal process of the maxilla was thrust into the nostril, and the tumour, as it was opposed in its growth here, overlapped, externally, the left half of the nose. The surface of the tumour was irregular in the extreme, presenting numerous elevations and depressions—some hard, and as firm as bone—some yielding, crackling like parchment—some elastic, springy—others, fluid and undulating to the touch. On carefully examining its orbital connexions the greater part of the orbital plate of the maxillary bone was found to be removed, the orbital edge of the bone quite soft; and though the eye was thus encroached upon and covered in, the growth had not interfered with the power of vision—had not pressed upon its functional nerve. On forcing down the upper anterior prominent projection, with the lower lid expanded on it, the eye could be brought into view; it was clear, transparent, and competent to receive and appreciate impressions.

And now as to the covering of the tumour. It was tightened throughout, tense in the extreme, ulcerated in many points, to about the size of half-a-crown piece, just below the edge of the

orbit, and also over the most prominent part of the tumour; no fungoid granulations stopped the gap, as the wheyey pus flowed from it. The bulk and pressure of the tumour destroyed the integument. No doubt, the colouring of this growth, in many places, was characteristic of a malignant type; yet I have seen the same in tumours of magnitude, when no such characteristic ever was developed. The integuments, though thin, bright-coloured, permeated by innumerable vessels, yet were free, and could, by gentle manipulation, be made to move—to glide upon the projecting growth; they were not absolutely incorporated with its substance, being only matted just where ulceration had taken place, as already noticed.

The having carefully examined the chest, head, &c., of this old woman, and not being able to detect anything abnormal, constituted one of the grounds upon which an operation was justifiable. There was no evidence of the tumour being malignant *ab initio*—the absence of pain, particularly of any characterized form—the clear, transparent colour of the sclerotics, and the entire absence of any features of cancerous cachexia, pointed to such a conclusion. There was no marked emaciation; no discolouration of the skin, no haggard, anxious expression; on the contrary, the patient was free from pain, of a most lively disposition, never, as she said herself, "being a day sick." She urged most warmly to have an operation performed, and felt a confidence that she would recover. Some considerations in the history and progress of the case, however, made me reflect most cautiously on the propriety of interference; and it was not until after deep deliberation that I consented to comply with the patient's wishes, and to remove the part.

No time was lost, and the operation was performed on the 13th of May, according to the following method:—The patient was seated in a strong arm chair, with her head resting against the breast of an assistant. She was further secured by a stout piece of wood passed beneath the arms of the chair and across her thighs, so as to prevent any starting forwards. A sheet was cast around her arms and her body, and the ends delivered to assistants standing behind. *No chloroform administered.*

I commenced an incision from the junction of the malar with the frontal bone, and carried it downwards in a sweep over the projecting tumour; and, when near the angle of the mouth, and where the cheek was attacked, a greater force was *communicated* to the instrument, and it struck through, dividing in its progress forwards

the labial commissure. Pressure was made by the index finger of the assistant, standing behind, on the labial artery, just as it curved round the inferior maxilla. I then rapidly made an incision from the inner angle of the eye over that portion of the tumour resting on the nose, and, carrying it under the left nostril as far as the septum, cut the upper lip through vertically. I then dissected up this flap from the tumour; and having got all the mucous membrane freely divided from before backwards, and it, together with the flap, raised an inch or so by gentle dissection, the covering was further lifted off the tumour—nothing but a cellular connexion existing and a few fibrous shreds, which gave way before light touches of the knife. In this way the part was exposed up to the inferior orbital ridge and floor of the orbit, no difficulty being experienced in freeing the ulcerated opening. The lower flap was next dissected down from the growth. The zygomatic process of the malar bone was next cut partially through with a fine Luer's saw, and the connexion between the malar and external orbital process of the frontal deeply notched with the same instrument. The section of the bones was next completed, in both positions, with a strong forceps. I next introduced the forceps into the nostril, and cut through the alveolar ridge and palate plate of the maxilla on the left side of the septum; and next, with the forceps, cut through the connexion behind the ascending process of the superior maxillary bone and the frontal. I then cautiously freed the eye from all attachments with the maxillary bone; and this being completed, I seized the tumour and maxilla in a claw forceps, and bent the whole mass down to the mouth; then putting aside the instrument, and protecting the fingers with a towel, I seized the bone and morbid mass, loosened from its bed, and powerfully wrenched it round and round till I broke through and tore up all posterior attachments. Some careful dissection had to be conducted behind and on the outside, where the growth insinuated itself backwards between the upper and lower jaws, and where also it passed external to the jaw, dipping in behind its angle; all, however, was set free, and the mass drawn out. A few ragged shreds had to be clipped off with scissors. The facial artery and a large tributary branch were ligatured, but no other vessel of importance seemed inclined to give blood; and warm sponges were thrust into the part to solicit any temporarily closed vessels to bleed.

During these several steps of the operation brandy was administered copiously, and well swallowed. When the surface was dry,

and not disposed to bleed, I applied the actual cautery very freely to all the deep parts, angles, and fissures, with the object—first, to seal up vessels permanently; secondly, to destroy any germs or roots of disease left behind; thirdly, to avert the accession of unhealthy forms of inflammation; all of which properties, I am convinced from observation, the instrument holds in a charmed way; and when writing on this subject before, my views were expressed as determinedly even as now, my enlarged experienced since only confirming their accuracy. There being no bleeding, I proceeded to dress the wound. I placed pieces of sponge, with a strong thread attached, and lint in like manner, into the irregularities beneath the eye and therabouts, which supported it perfectly in its berth; indeed I took the most sedulous care, when freeing the bone and tumour in its vicinity, that this important organ should not be disturbed in its lateral or superior attachments, detaching with the knife every shred beneath, so that any force applied to the tumour and the maxilla should not depress it. The flap was now brought down, and steadied in position by two points of twisted suture in the upper lip; two where the cheek was thick at the angle of the mouth, and a little beyond, and several points of wire suture along the nose and up the cheek; the parts lay admirably in position. Next, to keep out the cheek, I put other pieces of lint, rolled up and guarded with a strong silk thread, behind the cheek, so as to press it out. The threads I brought out (a novel mode) through the ulcerated hole, and fastened them by adhesive straps on the temple and forehead. This was an admirable arrangement to effect this object—the prevention of the flapping in of the otherwise unsupported soft parts.

The patient bore this severe operation wonderfully—and expressed gratitude at its being done; pulse good. She was carried back to the ward, and placed in a bed, comfortably heated and suitable to induce repose. In an hour and a-half after (11½ o'clock, a.m.) very rapid bleeding set in; fortunately I was in the hospital; so rapid was the flow that I feared to try any milder means than at once exposing the part. I drew out the needles, clipped the wire sutures, set free the flap, threw it up, turned out all lint pads, sponge, and clots, and saw a large artery spouting in the very deepest angle, far, far, back. I thrust a pointed cautery, properly heated, into the recess; but its application did not stay the bleeding; for a moment it seemed to have the desired effect, and to do so, but after a few additional seconds again the stream trickled out. Finding a second and a third application equally unsuccessful,

I proceeded, after a few minutes, with the greatest difficulty, to ligature, in this deep hole, the bleeding artery. Shortly after another vessel, close to the last, sprung and gave out blood very freely too. I applied long pledgets of lint, steeped in a solution of perchloride of iron, forced into the part, and a second piece over it and the ligatured artery, and a third piece outside again, and kept up finger pressure for about an hour, when it stopped the bleeding altogether. During all this proceeding the patient was sitting up in the bed, well propped up with a bed-chair and pillows, so that her head, steadied by an attendant, could not recede or elude the force. Relays of pupils kept up this finger pressure, and at several times throughout the day I called to see her; and, lastly, at 10 o'clock at night—and still this assiduous finger pressure, and no return of the bleeding—occasionally warm milk was given to wet the mouth; pulse excellent, and heat well developed over the body; even the flap is well supplied; it is warm—it is swollen and glazed upon the cut margin; as yet it is raised, turned up upon the forehead, so as not to come in the way of, or interfere with, the assistant's hands in making the required pressure.

Nov. 14, 9, a.m.—No return of the bleeding, the pressure being sedulously kept up the entire night. The woman partook freely of wine and milk occasionally. Her pulse this morning was good, 115 in number, regular in beat, and with considerable volume; she slept well, and never did my vigilant assistants relax their best efforts. The flap was warm and well supplied. She took some boiled milk and an egg beaten up, and brandy. At 12 ordered wine freely, the pulse being inclined to flag; got six ounces between that and 3 o'clock. A pint of beef tea, and eight ounces of wine through the remainder of the day and night—directions being left, in case of pulse becoming weaker, to abundantly give stimulants, and beef tea, as much as the patient could be got to swallow; the pressure to be kept up unremittingly by the aid of a number of assistants; she was placed in a more direct sitting posture, and supported steadily.

Nov. 15th.—Had a good night; slept quietly, and took 10 ounces of wine, and abundance of nourishment. Up to this date, 11, a.m., the finger pressure, by relays of assistants, has been kept up (58 hours) and with a successsful result. The pulse steady, rather bounding. She is able to speak distinctly, and her eyes are bright and intelligent. On this morning, the danger of hemorrhage appearing to have passed by, I proceeded to replace

and connect the flaps. The index finger of the left hand was passed into the mouth, and the superior flap everted, and its outer edges refreshed with a sharp bistoury; so in like manner the lower flap. The surfaces were then approximated, and a long line of juxta-position, from the angle of the mouth up to the temple, secured by wire suture, and by the twisted suture. The wire sutures were placed at short intervals throughout the upper two-thirds of the wound, while the lower third and fleshy part were supported, as in the first dressing after operation, by the twisted sutures. Though the flaps lay apart for days, yet, when refreshed and held approximated, in a short time they showed indications, by returning heat and pulsative throbbing, of being marvellously vitalized; so much for the efficient arterial supply from sundry sources. The plugs were left within, and undisturbed. During this severe ordeal wine was abundantly given; and, after the cheek hole was closed up, it was astonishing to see how well the creature swallowed. Ordered afterwards as much beef tea and chicken broth as could be taken, and eight ounces of wine in divided quantities. 3, p.m.—Going on most favourably; no restlessness; no distress complained of; sleeps quietly for 15 or 20 minutes, and then awakens for nourishment, either broth or wine. 10, p.m.—Continues to go on favourably; respiration quiet and steady; pulse soft, 100—it has lost its vibrating beat. To continue wine; broth at intervals throughout the night. An attendant to sit beside the bed, with a vigilant nurse.

Nov. 16th.—Had a good deal of sleep; pulse soft, and with considerable beat; respiration good; wound looks very well, admirably in contact; no undue heat; no swelling; no tension; no pain of any marked character. To have six ounces of wine through the day, and two pints of beef tea and chicken broth. 3, p.m.—Going on most favourably; no accession of pain or fever; she has slept quietly, and taken nourishment freely; anointed the wounds with oil, to soften the crusts of coagulated blood, &c. 10, p.m.—Calm in temper; circulation not excited; to have eight ounces of wine for the night, and beef tea and chicken broth as much as can be taken.

Nov. 17th, 9, a.m.—Slept quietly, awaking at intervals only, to take nourishment. Pulse 100, steady and soft. Speaks with strength, and her voice quite clear and natural. She took throughout the night the full quantity of wine, eight ounces, and two pints of beef tea. Changed into another bed so as to refresh her. The plugs remain still undisturbed in the chasm. Wine and broth to

be continued freely through the day. She is sustained in the sitting posture by the support of pillows and straps; calmly and quietly, thus securely steadied. 9, p.m.—Has taken the entire of the nourishment throughout the day most freely, and feels much the better for its sustenance.

Nov. 18th.—Continuing steadily to improve; plugs not interfered with; wound nearly united throughout. Wine and broth as on yesterday.

Nov. 22nd.—Removed the needles and cut out all the wire sutures. Union perfect and firm from one end to the other. On examining plugs found them still adherent, therefore let them remain. 10 ounces of wine.

Nov. 24th.—Plugs now loosened by free suppuration, so took them away; no bleeding after. Supported the entire cheek with long broad adhesive straps. On making traction on the ligature securing the internal maxillary artery, it came away without any trace of blood.

Jan. 20th.—The patient continued steadily to improve, taking abundant nourishment, both in the way of food and stimulants. The cheek is long since healed up, and the internal parts covered in with healthy repair. She is now up, and walking about; and it is astonishing how rapidly both strength and energy have returned. Four days later she left the hospital free from all annoyance and suffering; and it was most striking the little amount of disfiguration that followed upon so extensive and severe an operation.

To recapitulate the points of interest in this case:—1st. The magnitude of the operation; the intricacy of the dissection. 2nd. The cauterization of all the deep parts within, and from which the tumour was evulsed. 3rd. The ligaturing of the internal maxillary artery, and the application of digital compression 58 hours, for intermediary hemorrhage. 4th. The casting aside of the flaps from each other, and keeping them apart for two days and a-half; the refreshing of their edges, and their subsequent adhesion. 5th. The little amount of deformity after so violent and formidable an operation.

The rapid and alarming bleeding which occurred in this case suggests the propriety of my still further dwelling upon so hazardous a casualty. And, as I know no better monitor than stern experience, I shall detail another case where I had to remove the entire upper jaw for an osteo-sarcomatous tumour, and also to ligature the internal maxillary artery. From the violent rushes of

blood in those instances, and from other operations, and even dissections which I have made, it may be received as certain, that the artery does not always break up into the trivial little set of branches in which it is described to terminate:—

Case IV.—*Successful Excision of the Entire Upper Jaw and Palate Bone, for a Very Large Osteo-Sarcomatous Tumour; Ligature of the Internal Maxillary Artery; Rapid Recovery, with scarcely a Trace of Deformity.*

Catherine Wade, aged 50, admitted to Mercer's Hospital, March, 1862, with a large osteo-sarcomatous tumour of the upper jaw. She stated that, 16 months before, very acute pain attacked "a lump which was in her jaw for a year and a-half." She perceived, about this time, a great change in the size of the tumour, which steadily increased. She lost two of her teeth, which became gradually loose, having suffered great pain for days in them, and shooting through the tumour; thus the growth progressed to the above date, when she came up from the country to me for operation. The following was her condition:—A large tumour, the size of a small orange, with prominence of the left maxillary bone, thrusting out the cheek, partially shutting up the eye, intruding on the nose, depressing the palate plate, forcing down the alveolar range, and making the mouth droop. The integuments were strained, tightened over the projection, yet but little discoloured. On lifting up the lip and drawing outwards the cheek the internal relations of the growth were fully revealed; the whole alveolar range was included, from the first incisor on the left side, to far behind the last molar, by the adventitious growth. The tumour extensively involved all the anterior wall of the antrum, it being thrust out, as it were with violence, by the growth within. So extensive was the force acting within the maxillary cavity that its floor, the hard palate plate, was depressed and forced down to fully an inch below its natural level. The whole surface of the tumour was irregular and uneven, save where it passed back upon the palate plate of the palate bone and soft palate. The tumour throughout its alveolar border was hard and resisting, while posteriorly and above it was elastic and crackling; on pressure it was painful throughout, partially so beneath the orbit, and even here there was a marked sensitiveness complained of. When handled from without, corresponding to this point, an additional elevation could be detected;

and immediately beneath the orbital ridge the floor of the orbit was encroached upon, thrown up, particularly along its anterior dense edge, and likewise the lid forced upwards with it, which, together with the upward development of the tumour, passed higher than the visual axis; the head resting horizontal. At this stage of the morbid growth all the teeth remaining, three in number, were quite loose, and blood flowed down freely from their sockets; they lay almost entirely concealed, buried in the abnormally-developed parts around. The colouration of the tumour was varied; of a deep purple reddish colour in its most prominent and elastic parts, and of a brighter red in its firmer and more dense constituents. During the incubation and development of this tumour, in its early stages, pain of a very severe nature characterized its changes—when projecting and prominent, pain was only sometimes present—often absent for days; in its latter state, now, pain not very severe.

On a careful examination of the tumour I determined on removing the entire upper jaw and palate bone; and on the morning of the 12th of March, 1862, did so according to the following method:—The woman was made to sit in a strong arm chair, and secured after the manner which I have already laid down, and with her head resting against the breast of an assistant. Standing in front of her, I passed a sheathed bistoury along the middle of the cheek, and having got its point as high up as possible I withdrew the sheath and transfixed the cheek, from within, close to the junction of the malar and maxillary bones, and cut it down to the angle of the mouth. I at once ligatured the facial artery in the lower flap, and then prolonged, with a scalpel over the malar bone, the incision of the soft parts; and next freed the cheek from the tumour up to the edge of the orbit, all the way from without inwards, and then divided the upper lip, in the mesial line, into the nostril, and likewise lifted it up, together with the ala of the nose, from its attachment to the maxillary bone. The soft parts were most freely stripped up, and the bone, with its morbid production, throughout its entire extent brought into view. With a fine Luer's saw I notched deeply the junction between the malar and superior maxillary bones, and then, with a strong forceps, completed their separation. One blade of the forceps was next passed into the left nostril, and the other into the mouth; with one stroke of the instrument the hard and soft palates were cleft throughout. I next clipped across the ascending nasal process of the superior maxilla, close to its junction with the frontal,

and then seized the tumour in the grip of a large claw-forceps and pressed it down. The part gradually yielded with a few touches of the blade of a scalpel; the eye and the parts upon which it rested were let free from the orbital plate, and then the bone and tumour forced down into the mouth. The entire mass was then twisted upon itself so as to lacerate, if possible, the supplying vessels from behind. Some adherent shreds required liberation by the knife; and then all was most satisfactorily taken away. The eye was not in the least disturbed from its position, and the cavity from which the tumour and jaw were taken, though startling to look upon, yet was most healthy throughout. Some brandy was administered, and time given for the patient to rest; in a few minutes a very large artery burst out furiously—blood rapidly flowed from the mouth. At once search was made—and, on pressing back into the deepest angle of the mouth, I could discern a large vessel copiously ejecting blood. This, from its position, was the trunk of the internal maxillary artery; with a very curved tenaculum, stout in its point, I seized the vessel, having failed with spring forceps and toothed forceps to do so; and now throwing a noosed silk ligature over the handle of the tenaculum, I caught it in a long forceps and passed it along to the extremity of the instrument, where it held the artery, and with the forceps lifted the noose over the sharp point of the instrument. Thus the artery had a cast of the silken ligature fairly round it; the difficulty which now offered was to efficiently squeeze the knot, so as to divide the internal coats of the vessel, and permanently secure it; however, by rapidly following in the instrument with the index fingers of my right and left hands, the ends of the ligature being held tense over each, the tie upon the vessel was well secured; the second knot was as readily, and more easily, accomplished; the tenaculum was then cautiously withdrawn, and the ligature brought out through the wound and guarded on the cheek; the surrounding parts were all seared with the hot iron as a prevention against unhealthy inflammation being set up, or languid inflammation, almost as subversive of quick vitalizing repair; pieces of sponge and pieces of lint, with ligatures of reserve, were pressed into the deepest parts, the ligatures being brought out through the superior angle of the wound at the malar bone, and fastened with adhesive plaster on the temple. I next brought the vertical incision in the lip together with two hare-lip needles, and the longitudinal wound in the cheek accurately in contact by eight points of the silver wire suture. When all this dressing was accomplished, it

was truly astonishing how little deformity remained. The patient was then conveyed to bed—having partaken freely of a long draught of warm beef tea, and after it some wine, and taken 30 drops of Battley.

9 p.m.—Has had a quiet day and a good deal of sleep after; I found her, at this hour, free from pain and cheerful; 20 drops of Battley.

13th.—She has had an excellent night; reaction sufficient; not too much; no developed fever; pulse quiet; no pain; wine, six ounces, with cold water; cold beef tea.

14th.—Has had an admirable night; no pain; slept quietly; pulse only 86; has taken nourishment very freely. The wound looks most favourable; to have four ounces of wine by day, the same at night, and beef tea three times in the 24 hours.

18th.—Progressing most favourably in every respect. I removed, to-day, the pieces of sponge and lint, having first gently injected a stream of tepid water around them, and by such proceeding loosened their adherence, and permitted readily their being taken away without any renewal of bleeding.

20th.—Removed the needles from the lip, they lay there so long quietly, there being no strain upon them. So accurate was the line of union that it could scarcely be perceived; cut out all the silver sutures likewise, except two near the angle of the mouth, which I suffered to remain to support the more massive flaps; the interior of the mouth looks admirably.

26th.—Removed the remaining stitches. On the 26th it would be impossible, at a little distance, to know that any operation had been performed; and the eye has regained its motions, and the lids their power of adaptation to sleep or watchfulness. The patient is now out of bed, and walking about the ward.

The recovery of this woman was most remarkably rapid; in three weeks she was perfectly well; there was scarcely a trace of deformity externally. Where the knife had traversed through the cheek its course was traced not thicker than a thread, and where the lip was vertically severed it was difficult to discover; again, the eye was restored to its normal position, it lay on a plain horizontal with the other; its functions were recovered, as now its axis was correct. The retina had never been infringed upon by structural change. So now, all obstacles being removed, the transmitted impressions were at once appreciated and sight restored. At no distant period it is my purpose to detail several cases of excisions of portions of the

upper and lower jaws for cystic and benign tumours, without cutting the cheek at all, in some of which I have sawed large portions of the alveolar range, cutting away all beneath; in others removing the external wall of the bone pressed out and deformed, and gouging away the lining membrane and all within. Again, portions of the alveolar range, by vertical incisions through a part of the depth of the bone, one before, the other behind the part implicated in disease, and connecting both by a horizontal section with a fine saw—or what is better, a bent or curved-bladed forceps; thus, when exemplified in the lower jaw, leaving its under compact part in security, and so preserving the perfect outline of the lower part of the face. However, as I have just said, I trust, at no distant period, to be more explicit in this most interesting part of surgery.

Case V.—*A most Unusual and Hideous Form of Double Hare-lip, Complicated with Double-fissured Palate; Enormously Developed Septum, and Intermaxillary Projection, all Fused into a Shapeless Mass; Operation; Recovery, with scarcely any Deformity.*

In the pages of this Journal will be found two papers of mine on the operative measures necessary in the treatment of hare-lip—the first published in February, 1856, the second in May, 1860. In each of these communications numerous cases of the most complicated forms have been described and figured, in which I had most successfully operated. These shocking instances of deformity were selected from amongst many, owing to the difficulties which surrounded them in reference to operation. Since the above period I have operated upon many, many cases, both in private and hospital practice, bearing a close resemblance to them, and with an equally satisfactory issue. To cases such as these I shall not again refer, though I could extend the catalogue of them in a most remarkable way—all, however, confirming the accuracy and practical value of every deduction I arrived at, and every precept which I laid down. The following case, however, from the magnitude of its deformity, is well entitled to ardent consideration, as affording a fine example of what may be accomplished, even under the most unpromising circumstances:—

James Ferguson, aged two years and seven months, admitted to Mercer's Hospital, January, 1863, with terrible deformity of the mouth. The mother was rather handsome, without the least trace

of irregularity in the symmetry of the face—without the least deviation from normal arrangement in the alveolar arch or expanse of the palatine dome, or irregularity even in the setting of the teeth. So, likewise, the father has been reported well-looking, and free from deformity of any kind. Neither of the parents had any one immediately connected with them, that they could remember, marked in this way. The little patient was the third child; the other two were handsome and well formed. The mother did not remember being frightened, or cannot account for any mental impression producing terror. Words can but feebly describe the revolting aspect of the child; but I shall endeavour, with all accuracy, to describe the departures from a normal condition to the extravagant malformation exemplified in this stricken creature.

The maxillary bones, on either side, were scarcely at all developed in front, and the anterior margin of each was, as it were, suddenly pinched inwards; small angular little teeth studded these rounded and retiring portions. The palate plates were scarcely even marked; a thin semilunar rim of bone projected slightly inwards from the ill-formed alveolar range, like a narrow little shelf; and this, on either side, constituted the only attempt at separation between the cavity of the mouth and that of the nose. As the superior maxillæ were separated in front by fully three-quarters of an inch, so, likewise, the imperfectly developed palate plates, in their semicircular sweep outwards, left fully the same extent of space between their inner or concave margin and the inferior firm edge of the pendulous vomer. Thus, then, there was this wide-spread double fissure of the hard palate, and an absence altogether of the palate plates of the palate bones. So, too, the soft palate was never formed; there were no little pendulous flaps of it drooping on either side, as so frequently observed in ordinary cases of double hare-lip and fissured palate. The altogether unnatural construction of the vomer, as we shall presently see, created another remarkable feature in the double cleft of the palate, for this bone, so smooth, so even, so thin and extensive in its normal condition—playing so important a part in the partitioning of the several cavities hereabouts, and, by its steady support, imparting symmetry and beauty to the nose—had another attitude and aspect stamped upon it by the vicious development imparted to its growth. The bone did not descend so vertically behind as it ought to have done; it was cut off, as it were, from above, downwards and forwards. This absence of its posterior part permitted the sulci, formed

between it and the deficient palate plate, on either side in front, to communicate behind, and form an extensive chasm, revealing the entire pharynx to its highest cranial attachment. Again, in bulk and volume, the bone was so materially changed, as almost to obliterate its characteristics altogether. Throughout, from its highest margin, where it was inordinately thickened, it gradually increased in bulk and descended (its line of descent was about correct, probably a few lines lower than it ought to be); but the lower edge of the bone had gradually attained more than a quarter of an inch in thickness—this, at least, at its most posterior part; and still more gradually forwards, truncated all along until implanted into the inordinately developed intermaxillary bones. And now I shall speak of the hypertrophied mass composing the central osseous projection. I have met with, described, and written about many rare, curious, and remarkable configurations—freaks of nature—exemplified in the evil proportions of this central prominent bony piece; but I have never seen, in any instance, so wide, so deep, so prominent a piece; so dense and firm in its structure, so unyielding, fixed, and rigid in its position. The lower end of the vomer was expanded, osseous material, inordinately superadded—dense throughout, contributing materially to the width and depth of the intermaxillary bones, all now fused together—the entire projecting piece standing almost straight forward, far beyond the tip of the nose. An idea of its size may be more readily realized by its measurement: it was nearly an inch across; three-quarters of an inch in thickness or in depth; and in length, from where the vomer began to decidedly contribute in its formation, fully an inch. A part of this mass was composed of partially hypertrophied gum, dense and unyielding as cartilage; small teeth, in earlier days, had been in it, but now had been shed. The mucous membrane covering it was highly vascular, while that covering the vomer was of a brilliant scarlet colour, tinged with blood, traversed everywhere with minute arterial vascularity—ramiform injection of vessels, so minute as to be only revealed by the aid of a lens, yet so abundantly crowded, massed, when taken as a whole, giving the appearance of a continuous vermilion colouration of the entire surface. Attributable to the extensive open cavity in front, admitting, according to greater or less exposure, the cold or damp air, is the highly vascular condition of the mucous membrane, which also prevails throughout the entire nose, palatine regions and fauces.

fig 1

B

Fig. 1

... HARE ...

I pass along now to the description of the soft parts conjoint with this condition of the bones which I have endeavoured to describe (See Plate IV. and V., Fig. 1, front and side views of the patient), and which, from their unparalleled irregularity, contributed materially in adding to and likewise revealing the hideous aspect of the child. The alæ of the nose were widely expanded, dragged outwards, fastened tightly, tensely, down to the turned in anterior margins of the maxillary bones, while the tip of the organ was everted, dragged upwards and forwards, matted into the fibrous structure of the protruded osseous mass in front. The great elevation of this part gave the appearance as if the nose was broken across in the centre; pendent from the very tip of the nose, and standing still more prominently forward, was a rounded piece of integument not larger than a sixpenny piece, and likewise adherent to the upper surface of the projecting osseous part; it was thin in its construction, and margined with mucous membrane. The alæ of the nose, as I have mentioned, from their connexions, were dragged so directly outwards as to bridge over by a straight line the dark sulci that intervened between the insertion of the vomer into the protruded central solid mass and the non-developed anterior edge of the maxillary bone on either side. From the depressed point of bone to which the ala was attached, so likewise here was the corresponding half of the malformed lip tied tightly down. The right and left portions seemed to correspond in form, in curtailed volume. Each portion, from its constriction above, where its material was very different, suddenly became protuberant, everted, and sharply receded, passing almost vertically to meet the lower lip, and at their junction completing nearly a right angle, instead of lying in juxta-position. From this it will be seen how small the lateral portions were, or, in other words, how withered in their development. When this creature made the effort to swallow, the greater portion of both solids and fluids were projected by the tongue through the cleft in front, owing to its unusual and over-demanded exertion to collect and force back the nutriment. I have before noticed and directed attention to the fact of the unusual development of the organs in cases of somewhat an analogous amount of deformity, tending greatly to the difficulties of the early management of the case after operation, owing to the confined limits imposed upon its volume and its movements. The condition of the child was altogether most hideous and pitiable (See Plate IV. and V., Fig. 1.) On Saturday, January 31st, I operated upon the child

according to the following description:—I need scarcely say it required much thought and consideration to plan the various steps of so complicated a piece of business; and I may here add, as a word of caution and admonition, this rule, which I would thus write, to enforce careful thoughtfulness for every emergency:—*He who first operates has the entire of the deformed parts in their fullest development, such as they have been created—soft parts, corrugated and diminished in proportions; yet they are elastic, extensible, and permit of separation, of traction, to a vast extent. In this early state, by free and extensive dissection, abundant material can be borrowed from the cheeks and sides of the face to cover in the faulty gap in front, while the irregularly developed maxillæ the protruding intermaxillary bones, the abnormal septum, may all be pared down, split up, thinned; portions removed; spaces cut out, defined in form, for the reception of distorted, thrust-out parts; to be held in unity by wire sutures, by needles, until steadied together by a new and living bond, permanent for ever.*

Should these early efforts of the operation fail, attempts made after seldom prove so satisfactory, and for these simple reasons:—Much has been taken away, the soft parts that remain which refused the union; from the cutting, from the piercing, from the nonextensibility consequent upon the reparative process, efficient to heal, is very imperfectly conditioned to endure an increased amount of traction, that which must be enforced, so as to bring surface to surface, and offer even the chance of union.

These secondary operations, as I have well determined from repeated examples, require more skill, more tact, more delicacy, at the same time boldness of manipulation, to accomplish all that is demanded and required, than any primary case can possibly do. Hence the deep stress which I lay upon the responsibilities which devolve upon the surgeon who first undertakes to meddle with and endeavours to rectify those bad cases of hideous deformity consequent on arrest of development. I shall now proceed to detail the operative proceedings, which, after due reflection, I considered most applicable in this frightful case. On the morning of the operation the child had been abundantly fed on two occasions, so as to do away with the necessity of giving food for some hours. The little fellow was rolled in a sheet, not too tightly, merely so as to retain the arms, but not in the least to interfere with the ingress and egress of air to and from the chest in lusty crying; thus he was placed in the nurses arms, who sat upon a strong chair, with his

head resting upon her left shoulder, the chair being elevated to a convenient height. I commenced in this way:—I first struck a tenaculum into the central fleshy part, lifting it upwards, and making it tense at the same time; then sweeping the knife rapidly beneath, dissected it up to its attachment from the tip of the nose. I guardedly preserved every atom of it by semilunar strokes of the knife, by which method the curved and matted-down borders were not infringed upon, whilst the osseous projection was fairly exposed. The tenaculum was then disengaged from this soft portion, and it was not meddled with further in this stage of the dissection. I next proceeded to deal with the projecting osseous piece. All its features, and characters, and intimacy with the vomer being thoughtfully considered, duly weighed; the soft tegumentary piece being guardedly drawn up by an assistant, I cut, with a small-bladed, sharp bone forceps (constructed, by order, for me, and most efficient for such purposes), the vomer, where quickly expanding for fusion into this morbid development, almost directly backwards, there being but very slight inclination upwards, to the depth of about three-quarters of an inch; the blades of the forceps were then placed on either side of the projecting piece, and a thick slice removed from its anterior surface, the two incisions meeting above at nearly a right angle; thus a very large portion was taken away. Though this proceeding was more rapidly executed than the time taken for its description, the bleeding was most alarming. A very large vessel, nearly the size of the radial artery, nourished this unnatural development; and when it was divided the blood shot out vigorously in a rapid current. However I had anticipated, from antecedent cases, the likelihood of such an occurrence, and was prepared for it with the actual cautery. A fine-pointed instrument, heated to its full temperature, was resting in the furnace; quickly it was thrust into the divided bone after the retracted artery, and efficiently it fulfilled its duty on a second repetition. Hemorrhage stayed, I proceeded still further to prepare this piece to fill up the space between the imperfectly developed maxillary bones, and so to afford an even support to the upper lip when restored. The forceps was next applied behind the projecting piece, and made, by two incisions, to cut a triangular piece out of the vomer, the apex above, the base inferiorly. My own forceps for dividing the stalk (figured in the *Dublin Quarterly Journal*, May, 1860) was next laid on, and the compact osseous bar clipped, while the less dense and soft parts on either side of the stalk were spared, the vascular supply

descending to the piece, essential to be preserved, not interfered with, and thus its life secured.

The various cuttings just detailed rendered this piece most amenable to management—the taking away of the large portion in front, removed for ever what was obnoxious there, the peculiar angle cut out behind, and the clipping of the dense stalk in the centre, nearly through its entire depth—allowed the preserved piece to be forced back, most gently, without risk of its vital supply; and when the lateral borders of it were pared, and the marginal gum on the maxillary bones refreshed, it was astonishing how well this extensively pared dense piece rested in the recess. So accurately were all these details carried out, effected, there was no tendency or disposition of the piece to start forward; and, from the evenness of the cuttings, there were no sharp edges or irregularities anywhere. The solid parts being constructed, I again returned to the central soft piece, and seized it with a tenaculum, at its point, and cut it with straight scissors into a perfect V shape, preserving it to its very lowest point. The left portion of the lip was then seized with the tenaculum, just external to its curve, and lifted upwards and outwards, while the scalpel was carried beneath it, cutting extensively, widely, the mucous membrane, and freeing fully the expanded and pinned-down ala. This being all set free, liberated, the knife was still carried outwards, detaching the cheek, and thus creating that sufficient laxity—whereby an approximation of the parts might be secured—that more constrained relaxation favourable to union; the right portion of the lip and corresponding ala of the nose and cheek, were treated after a similar manner. Such being efficiently done, the curved scissors, preferred by me in such cases, was applied, first upon the left side, being laid on at the red border, just external to the point where the tenaculum was inserted; this portion of the lip being stretched and made steady, on the instrument being quickly, energetically closed, the separation of the rounded border was accomplished to its highest part into the nostril, at its point of attachment with the ala. The right portion of the lip was treated in every particular in a similar way. During these steps of the operation scarcely a drop of blood was lost, so carefully was pressure made on both facial arteries. Next came the important stage of the operation—the arrangement of all the cut parts, and the adaptation of all the divided surfaces. The needles which I used for this adjustment were such as I have figured and approved of in my essays on the operative measures necessary in the

treatment of hare-lip—the long, slender, steel needle. The first of these was passed from left to right, its entrance the fourth of an inch external to, and above the left ala; being thrust towards the right, it was made to transfix, a little above the apex, the triangular piece formed out for the septum of the nose; and being still further pressed on, the needle made its appearance at the same distance from the right ala, and at the same height from its under margin, as where it entered on the left side; thus, when the transfixion of the several parts was accomplished, the needle lay on a perfectly horizontal plane. It must be remembered here that the points of entrance and exit of the needle were so planned at such a height above the low margins of the alæ, that when it traversed the central triangular piece, it held it well up to the cut surface of the vomer in front, so as to establish a permanent union. By direction, then, the cheeks were well forced forwards, and I threw a thick silken waxed ligature across the needle, in the figure of eight form. From the decision with which I had the cheeks held forward the parts glided gently together towards the centre of the needle, to which parts they were compressed, and the ligature was made steadily to follow them, *not to drag them together*, but simply to prevent their retraction and separation—their again receding. The cord was thrown several times from side to side, so as to perfect the twisted suture. It was very apparent now how admirably the septum had been formed. The second needle was next introduced, fully three-quarters of an inch away from the edge of the cut surface, and made to enter at the junction of the red border of the lip and integument on the left side; with a steady pressure it was forced from left to right, deep through the lip, cautiously in a horizontal line, so as to strike the right or opposite half, critically in the same position, so as to make its appearance at the same distance from the red border, and guard against any unevenness or notch below. A strong waxed silk ligature was also thrown, in the figure of eight form, round this needle, the same precautions as taken with the first needle being adopted, of forcing forwards the soft parts to absolute contact, before the cord was cast around; several turns of it were made in the evenest way, and the adjustment could not be more perfect. Owing to the eliptical incisions created by the curved scissors, and the remote ends of the double clipsis being brought together, a slight oval space intervened between the upper and lower needles; in the upper part of this the apex of the central fleshy piece forming the septum

lay. I introduced a third needle, finer than the other two, midway between both, on a line with the other two, at the point of entrance and exit and depth throughout from the surface. A separate ligature was likewise thrown around it, in the figure of eight form, and the same pressure from behind forwards afforded to the soft parts, as in their application. When the ligature was applied the concave margins entirely disappeared; surface lay to surface in a vertical line, and, as a consequence, the inferior margin of the lip was rendered slightly prominent, the object aimed at by such a division and adaptation of curves. The ends of the needles were next clipped off with an ordinary wire nippers; thus the needles were inserted, thus the ligatures were applied, each needle having its separate cord. That reprehensible practice of passing the ligature from one needle to the next, and so on, I need scarcely say was not employed by me. It is a proceeding which warrants my deepest censure. Such a mode of application tends to approximate the needles, and so, in proportion to the tension employed, to shorten the cicatrix, or, in other words, to contract it in its vertical axis and increase the predisposition to notching at the red border; whereas the separate ligature thrown around each needle, flatly and evenly laid on, tends to press gently down the lip, and lengthen—increase its vertical measurement, and likewise to assist the evenly-adjusted curvilinear incisions in perfecting the union, and rendering prominent the inferior part of the wound and red border of the lip. During all this manipulation the cheeks were pressed steadily forwards, so as effectually to guard against any sudden jerk or additional violence, upon the constrained parts. Long since, in those cases, I have put aside the use of spring apparatus, from the difficulties I encountered in their steady application and adjustment to the heads of infants—owing to the facility with which they were put astray, and to their likelihood to do mischief; again, from the readiness with which they went out of order, and so lost their charm. The method which I have been adopting latterly, and which I find perfectly efficient in taking the place of the assistant's hands, in holding the parts forward, relaxing the cheeks, and grip upon the needles, is the application of adhesive straps, cut, figured, and applied after this manner:—Two pieces should be cut about an inch and a-half wide, and each long enough to reach from the summit of the forehead to beneath the chin, taking a semicircular course behind the cheek. The edge of the strap, which is to be anterior when applied, should be cut in a semicircular shape to the

extent of the cheek, the centre or deepest portion being somewhat more than half-an-inch. One end of the strap should be fastened on the upper and fore part of the forehead, then brought in a curved manner outside or behind the cheek, and then carried, with moderate traction, forwards beneath the chin. The second strap should be applied, after a similar fashion, on the opposite side. If the plaster be good and adhesive it never slips, the broad ends take a firm unyielding grip, and the straight edge of the plaster behind, made tense by the traction forwards, offers a direct opposition to the recession of the cheek, while the curved anterior margin permits the strap thus put on to lie more evenly, and so accommodate itself to the prominence of the cheek thus forced forwards. In the case under consideration, and in which the strain upon the adjusted parts was extreme, this practice fulfilled every indication that the most perfect appliance could bestow. The operation and dressing being now finished, I was well satisfied with the appearance of the child. Not a drop of blood oozed from the parts, and he was well resuscitated by a few tea-spoonfuls of wine and water.

9, p.m.—The child was wonderfully well; he had taken milk freely several times. In five hours after the operation, the child being quite clear from the effect of the chloroform, and having perfectly recovered from the shock, as evidenced by reaction, I had, as my usual custom, small doses of laudanum, at intervals of three or four hours, administered, so as partially to narcotize the child. Previous to each additional dose the infant was freely fed, and quickly calmed again to repose. On the morning following the operation, February the 1st, nothing could be more satisfactory than the condition of the little patient; he had calm, quiet, steady respiration, an excellent pulse, well arterialized blood; he had consumed a large quantity of milk; pain was averted, and undisturbed sleep was enjoyed, from the sedative influence of the narcotic. Here, again, I would wish to urge the propriety of administering opium to children after painful and serious operations. *Children bear opium in proportion to their years, I would say, even better than adults.*

I fear this axiom will startle some; but, as all other propositions in these reports, I offer it, too, with all truthfulness as the result of my own experience. In my Memoirs on Hare-lip the same mode of procedure has been inculcated—advocated; and in numbers of cases occurring in my practice, since the last was published, its superiority has been confirmed; and so likewise after the

embarrassing operation that I am describing. Everything went on most admirably, until the evening of the third day, when erysipelas attacked the parts. The child was listless for some hours before, and refused his food; soon the blush of inflammation showed itself about the wound, external to the needles; the nose was swelled; the eyes were puffed. At once a brisk mercurial aperient was given; wine, with water, was occasionally taken. On the following morning (February 4th), and the fourth day after operation, the erysipelas had made considerable progress; the child had scarcely any sleep; he was tossing and restless all the night; the lip and cheeks were more swollen, more brilliant in colour; the eyes were more shut up; the forehead was involved slightly—œdematous, painful to the touch, and discoloured; pulse small, feeble. All the swollen parts and parts engaged were now smeared with the strong mercurial ointment—a drachm being applied morning, mid-day, and at night; and sherry wine was ordered in what may be considered large doses for an infant at this tender age; four ounces were consumed in the 12 hours; this treatment was continued steadily—perseveringly, for two days (February 6th), before the inflammation began to subside. Then the application of the mercurial ointment was suspended, and all on, removed with sponge and warm water. Still the wine was continued, and strong chicken broth, which the child partook most freely of, as well as of milk in abundance.

February 7th.—A remarkable diminution in the swelling; all redness dispersed: the eyes bright and intelligent, and the œdema of the lids gone; yet the skin branny—scaly everywhere, upon the recent track where this erysipelatous inflammation travelled; fortunately no depots followed; the suppurative crisis had been arrested everywhere; the child took now his food with eager anxiety, and the peevish restlessness of the creature was altogether subdued. Now came the question as to the removal of the needles. In my opinion their presence was not the exciting cause of the erysipelas at all. I attributed its origin to the necessary violence inflicted on the deeper parts; from the admirable way in which the cheeks were relaxed there was but little strain upon the needles; and, from their fine slender proportions, they were sources of but little irritation or annoyance to the parts, which they so delicately held together. In my former writings I have laid down the most suitable time for the removal of the needles at 96 hours after the operation, and invariably got perfect union by such a mode of practice. In the instance I am now relating, I did not take them away until the seventh

morning after the operation (168 hours). As I have just mentioned, the parts were so relaxed, so free altogether from restraint or tension, it was clear the needles were doing no harm there, and there was no chance of their cutting their way out and occasioning unsightly gashes; nay, I looked upon their presence, as lying in this most favourable aspect, as a great advantage and protection in support, in case the unhealthy inflammation had interrupted the adhesive bond or union of the divided surfaces, or occasioned—brought about their separation afterwards. Now, however, that all unhealthy inflammation had long since departed, I removed the needles with the greatest caution, an assistant all the time steadying the head and maintaining the cheeks well pressed forwards. On the parts being revealed, it was a pleasing thing to see union effected throughout; the septal piece was perfect, adherent to the bone; the angle of it was evenly caught between the lateral portions of the lip above, and united beautifully there; while the remaining portion of the lip was perfectly formed, and united to the lowest point of its red border; while not the least remarkable part of the change wrought in the features of this little creature was the perfectly raised and symmetrical form and position of the nose. Adhesive straps, broad at their ends, narrowed toward the centre, were applied, so as to sustain the parts and maintain forwards, with steady support, the cheeks; while the lateral straps from the forehead round the cheeks to beneath the chin were applied in the manner already described. Such was the mode of dressing employed for about 10 days, without a single untoward circumstance to arrest the progress to perfect recovery. At the end of this time it was most marvellous to see the changed aspect of the child. At a little distance it was almost impossible to discover that the little fellow had been subjected to operation at all; and on closer scrutiny the adaptation of parts was so accurate, and the union so perfected throughout, that only faintly marked lines of junction testified to all that had been done. On examining the mouth, nothing could be better than the way in which the partially preserved central piece lay; it shut up all the hideous gap between the maxillæ, and its lateral edges lay in contact with, and united immovably to each, whilst its lower edge ranged with the alveolar arch and perfected the palate in front, at the same time that its anterior surface sustained the united lip in its now full integrity and proportion. The condition of the child, before and after operation, is most accurately represented in plates No. III. and IV., Figs. 1 and 2, from drawings

beautifully executed by Mr. Thomson. From first to last the history of this case is interesting in the extreme; presenting difficulties and complications of unusual magnitude, yet successfully overcome by thoughtful consideration, gentleness, promptitude, and decision. In the after treatment of this child there is one point that I must again lay stress upon. I say, again; because in my essays on this operation the value of the practice did not escape me. I dwelt upon, and illustrated by cases, the great efficacy of the administration of opium so as partially to narcotize the child. To the exhibition of the drug—the extension of the practice in this most embarrassing case—may be, I think, in a great measure, attributed the successful issue of the operation.

I contend for, and am satisfied, that the parts were all evenly cut—most accurately adjusted; gently, lightly, steadily in contact; yet it was essential, for security of union, that no irritation should be set up—no dragging or tension on the needles; in other words, that the child should be calmed down, no restlessness, no crying, no struggles. This was all brought about, all done, by the exhibition of opium. And as the shedding of the lymph, its plastic exudation, its organization, was not interfered with or interrupted, union, healthy junction, followed in a few hours, and was perfected previous to the terrible complication, erysipelas, setting in. Reasoning from analogy, it may be inferred, had not healthy adhesion, even union, been quickly effected, the supervention of this destructive inflammation would have marred all prospects of success, and caused the operation to be a perfect failure. Whereas, now the case stands prominently forward as a good example of what can be effected by operative surgery in removing distress and rectifying hideous deformity.

Art. IX.—*Cases of Cancer of Heart, Lungs, &c., with Incidental Remarks.* By Robert Law, M.D., Professor of Institutes of Medicine in School of Physic in Ireland, &c.

Hugh Darling, aged 50, gate porter, residing about four miles from Dublin, beyond the Phœnix Park, was admitted into Sir Patrick Dun's Hospital, December 11th, 1861. At the time of his admission into hospital he appeared to be very ill, and in a state of extreme prostration and weakness. He complained of oppression of his chest and of distressing palpitation of the heart; he had

a sallow complexion, and his expression indicated considerable suffering; he was very much emaciated; the pulse, 130 in the minute, was small and weak. On examination the chest exhibited the following phenomena:—Anteriorly the right side was clear on percussion, and the respiration was very distinct—almost puerile; the left side was extremely dull from the clavicle to the mamma; from this down it yielded a tympanitic clearness; corresponding to the dull sound there was complete absence of vesicular respiration; a distinct bronchial murmur alone was heard. The heart was heard pulsating in its normal position. The clear tympanitic sound immediately below the mamma, was, no doubt, yielded by the stomach. Posteriorly the stethoscopic phenomena were the same as those anteriorly; the sound on the right was clear, and respiration distinct; while on the left the sound was dull and the respiration absent, with the exception of the ringing bronchial murmur that was more distinctly heard than before. The same tympanitic clearness that existed unusually high before, was equally high behind There was no bronchophony nor ægophony, nor was there any apparent dilatation of the side.

The patient's weakness and exhaustion were so great that I felt I should not have been justified in asking him to assume the prone position, on his hands and knees, with the view to see how this would affect the stethoscopic phenomena. There was but little cough, and very scanty mucous expectoration.

The previous history of the case was, that he had been in bad health for six months, complaining chiefly of pain in the left side; but it was only within the last three months that he had become seriously ill, always referring his pain and distress to the left side. He had been under medical treatment, and had blisters and various applications to the side, or rather to the back, but without any lasting relief. Six weeks before he came into Sir Patrick Dun's Hospital he was seized with hemoptysis, for which he was in Stevens' Hospital. When the hemoptysis had quite ceased, he returned home, when a sudden aggravation of his sufferings came on, which brought him under our care.

The question now arose, what was the exact nature of the case, or what was the explanation of the stethoscopic phenomena? To what cause, or to what conditions of the parts, were we to ascribe the dulness of percussion and the absence of respiration to such an extent on the left side? We confess we saw a good deal of difficulty in the diagnosis, and three views suggested themselves to us

for our consideration. Before we proceed to canvass these different views we shall advert to the unusual height to which the stomach ascended, as indicated by the clear sound, both anteriorly and posteriorly. It first occurred to us to inquire if it could be a case of effusion into the cavity of the pleura. If this were the case, we should have had dilatation of the side, which we had not; in the next place we should have had dexiocardia, which was not the case; and, thirdly, we should have had a depression of the diaphragm, and a consequent depression of the stomach, the exact reverse of which existed here.

The next view that presented itself for our consideration was that of extensive effusion into the pericardium. We had seen effusion into the pericardium so considerable as to push the lung entirely aside, and so to compress it when displaced, as to render it almost, if not altogether, impervious to the air. But we could not accept this explanation of the phenomena here. For were the effusion so considerable as to produce them, it would have caused that peculiar arched appearance (*voussure*) of the side which is the constant effect of extensive pericardial effusion, and to which Louis has directed attention. This was not the case here. Besides the heart's action was heard more distinctly than it would have been had the pericardium been filled with fluid; and, lastly, a pericardium distended with fluid would have pushed down the diaphragm and stomach equally with effusion into the pleura.

The third view left for our consideration was the dependence of these phenomena on some morbid solidity of the lung itself. The ascent of the stomach seemed to us to afford a key to the explanation of the change which we believed the lung to have undergone, and which we believed also accounted for the physical phenomena. As there is no other pathological condition of the lung that could have allowed the ascent of the diaphragm, and consequent ascent of the stomach, but cirrhosis, we judged this to be the condition of the organ, and ascribed it to an original pleuropneumonia. At the same time that I gave it as my opinion that the physical signs depended on cirrhosis of the lung, I also expressed my strong conviction of the existence of malignant disease, grounding my suspicion on the want of proportion between the gravity of the symptoms and the apparent local lesions.

The treatment consisted chiefly in counter-irritation to the side, and such diet as a fastidious appetite would allow. He seemed to amend slightly; and, on the day of his death, he sat up in his bed

to his breakfast, ate an egg and drank a cup of tea, and fell back lifeless. He had only been in hospital 10 days.

Post mortem examination.—On opening the thorax there was on the left side a circumscribed pleuritic effusion of serum, moderate in quantity, retained in its place by adhesions. This pressed upon a portion of the lung which was connected by adhesions with the pericardium, and this lung, from being thus compressed, had become carnified. In the top of the lung there was a quantity of blood effused into the parenchyma of the organ, forming an apoplectic clot about the size of a small orange. The entire of the posterior portion of the lung, with the whole of the base which rested on the diaphragm, was converted into a tough fibro-cellular mass, in the midst of which were several small hard tumours, varying in size, but distinct in their outline. The base of the lung adhered so firmly to the diaphragm that it could with difficulty be separated from it. The portion of the diaphragm to which the lung adhered was so drawn up towards the thorax, that it formed a cup-shaped concavity towards the abdomen. The part of the lung which was chiefly transformed into the fibro-cellular structure, and which exhibited most of the hard carionomatous tumours—for such we believe to have been their real pathological nature, as well from their appearance as from the unquestionable carionomatous nature of other tumours found in the progress of our examinations—lay alongside of the spine. The whole lung was considerably shortened in its longitudinal diameter. There was a large mass of hard scirrhus glands in the posterior mediastinum, in the midst of which the descending aorta ran. The surface of both pleuræ-pulmonales was densely studded with small hard granules about the size of millet seed. In the substance of the walls of the left ventricle of the heart, anteriorly, there was a hard scirrhus tubercle as large as a filbert nut, and another of the same nature, but smaller, in the substance of the right ventricle posteriorly. Both were deeply imbedded in the muscular structure.

A portion of the sixth rib, about mid-way between its two extremities, exhibited an enlargement like an exostosis or node projecting into the thorax. It was about an inch and a half in its long axis. A knife easily penetrated into it and gave issue to a considerable quantity of greenish-yellow encephaloid matter. The liver, not altered in size, exhibited, on its superior surface, two characteristic cancerous tubercles, umbilicated or depressed on their surface, each about the size of a chestnut, well-marked specimens

of Farr's tubercle. There were also small hard tubercles in each kidney, as also in the spleen. The abdominal surface of the diaphragm on the left side was studded with small hard granular tubercles. If there existed any doubt as to the nature of the diseased products found in the different organs, the unequivocal character of those in the liver would be enough to remove it. Of their true cancerous nature there is no question. We are well aware there is a large white tubercle of the liver besides that which we so confidently assert to be the true cancerous tubercle. But the former has not what we deem the essential characteristic of cancer, viz., its cup-shaped dimpled upper surface. The former we believe to be scrofulous; and where it exists other scrofulous tumours will also be found. In this view my experience concurs with Mr. Collis, who has devoted so much attention to the subject of cancer. Assuming these pathological products to be cancerous, we believe the records of pathology hardly afford an instance of a more extensive development of the disease, or one in which more organs were implicated Cancer of the heart has been very rarely met with. The present case is the second that has occurred to us, and under very similar circumstances. It is remarkable, too, how little there was to indicate the cardiac affection. There was, in fact, nothing to excite a suspicion of its being the seat of malignant disease. It reminded us of what we had often witnessed, viz., the existence of extensive cancerous development in the stomach, which had not been suspected during life, and which owed its obscurity to its not involving either the pyloric or cardiac orifice. So, the cancerous affection here did not, from its peculiar position, damage the working of the machine.

The case presents us with many most interesting considerations. In consequence of having only seen it so late in its course we are left to our own conjectures as to how it proceeded; and, from our own observation, and from what we could learn of the history of the case, we would divide it into four distinct periods or stages. We have little doubt of its being, in the first instance, an attack of pleuropneumonia terminating in cirrhosis of the lung, and that it was this that caused that contracted condition of the organ which allowed the ascent of the diaphragm, and of the stomach, and so gave rise to the clear tympanitic sound so unusually high. In fact no other condition of the lung than that of cirrhosis could explain the abnormal ascent of the stomach, which was so remarkable that the thought occurred to me if it could be a second instance of that

I once saw in a case which had been under the care of Dr. Osborne in Sir Patrick Dun's Hospital, when *post mortem* examination discovered the stomach above the diaphragm in the left pleural cavity. We would here express our conviction that the termination of the pleuropneumonia in cirrhosis indicates to us a certain dyscrasia, or pathological state of the blood, as we have ever found it when there were other indications of constitutional deterioration. Thus we have seen it in fever; and, from the very close resemblance between many both of the physical signs and constitutional symptoms of cirrhosis and phthisis pulmonalis—we have seen an individual affected with cirrhosis, who had had pleuropneumonia in the course of his fever, declared to be in consumption—I think we may adopt the language of Rokitanski, and designate it an unhealthy fibrin crasis. We believe the cancerous development constituted the second stage of the morbid process, and that the fibrinous exudate was the chief although not the exclusive matrix of this morbid product.

We regard the pulmonary apoplexy as the third stage. We know how frequently it occurs with cirrhosis of the lung; it is one of the symptoms which it and phthisis have in common, and which almost more than any other has contributed to this lesion being confounded with phthisis pulmonalis We can easily believe that the coagulum that occupied the top of the lung had been there since he had been in Stevens' Hospital, six weeks previously, although the hemoptysis may have ceased; for we know how often we have extensive effusion of blood into the pulmonary parenchyma and no hemoptysis. There was no trace of blood in the scanty sputa while Darling was under my care. We would here remark that the pulmonary apoplexy, which in this case was in the cirrhosed lung, is more frequently found in the opposite lung—a fact which I believe I was the first to notice, and which appeared to me to be an additional proof of the identity of the pathology of cirrhosis of the liver and cirrhosis of the lung, the hemorrhage in each taking place at a distance from the organ originally affected, being from the stomach in one and from the sound lung in the other. We look upon the circumscribed pleuritic effusion as the fourth stage, and the last straw that broke the camel's back.

Many years since I had a case similar to the preceding one in many particulars. The subject of it was a female, about 40 years of age. She was admitted under my care, in Sir Patrick Dun's Hospital, for extreme oppression of her breathing. Her story was,

that she was attacked with very acute pain in her left side; that the pain ceased, but then her breathing became very much oppressed. The signs of extensive effusion into the left pleura were very unequivocal; the side was considerably dilated; the heart, however, retained its normal position; the condition of the patient was extremely low, and her countenance bespoke considerable distress. I employed such means as seemed to me calculated to promote the absorption of the fluid, but with little, if any, success. I then consulted with Dr. Graves and Surgeon Cusack as to the expediency of removing the fluid by operation. Dr. Graves thought that the fluid most probably was pus; that it was in fact a case of empyema, and therefore that the operation was not likely to be attended with success. I could not agree with him as to the nature of the fluid, believing, from the symptoms that ushered in the attack, that it was acute pleurisy terminating in serous effusion. Had I believed that it was a case of empyema, instead of serous effusion, so far from this influencing my opinion against operation it would have disposed me in its favour. Mr. Cusack fully believed that it was a case of acute pleurisy terminating in serous effusion, but did not advise the operation, alleging as his reason that he did not consider the effusion into the side enough to explain the low depressed condition of the patient, an opinion in which I entirely concurred. The poor woman did not survive the consultation many days; but before her death we were apprized of a fact which had not been made known to us before, viz., that six months previously her right breast had been removed for cancer.

Examination of the body disclosed a very copious collection of straw-coloured serum, with large masses of lymph floating in it, in the cavity of the left pleura. The entire of the left lung was enveloped in a dense fibro-cellular membrane, in some places, especially near the apex, almost half an inch thick. The base of the lung was firmly adherent to the diaphragm, and was separated from it with some difficulty. The portion of the diaphragm on which the lung rested, as well as the base of the lung, were densely studded with small granular tubercles, like millet-seed. These were also seen on the entire surface of the false membrane, as well as on the pleura of the right lung. In the upper part of the left lung there was a tumour the size of a small orange, consisting of encephaloid matter; lower down in the organ, nearly to its base, there were other tumours varying in size and consistence. Some were like soft cerebral substance in a state of decomposition, and

closely resembling it in appearance; others were firm and elastic, like cartilage, and contained in their centres a milky fluid. The pulmonary structure interposed between the tumours was pushed aside and condensed. The tumours maintained their distinctness, and could be removed from the pulmonary structure in which they were imbedded without lacerating the structure. On the anterior surface of the heart, midway between the apex and base, there was a projecting tumour about the size of a small hazel nut, half of which was sunk in the substance of the left ventricle, while half was above the surface, but seemed to have been flattened by rubbing against the opposite pericardial surface in the motion of the organ. This tumour was of a hard scirrhus structure, resembling the small tumours in the lung. There was no more cancerous development in other organs where it is so often met with in the cancerous cachexia.

The phenomenon of cancer of the heart is very rare. Cruveilhier does record cases of it, but Rokitanski does not even name the heart in his catalogue of organs in which this disease appears, placing them in order according to the frequency in which it appears. The peculiar anatomic constitution of this organ, into whose structure so small a proportion of areolar tissue enters, would yield an explanation why it is so rarely the subject of those pathological conditions to which organs, into whose structure it enters more largely, are exposed; and of cancer, amongst the rest. We can readily understand why nature should purposely admit as little as possible of the structure which may be said to be the very matrix of almost all pathological changes into the constitution of an organ whose healthful condition is so essential to life. We are persuaded myocarditis is an infinitely more rare disease than it is reported to be. If this were not the case, should we not at least occasionally see some of the ordinary terminations of inflammation in the substance of the heart among the numerous pathological specimens presented to us by fatal pericarditis or endrocarditis? Cardiac pathology has ever been with us a subject of deep interest for many years, and under very favourable circumstances for studying it, yet we have not met with an instance of myocarditis terminating in suppuration, or in unequivocal abscess of the heart. But we have met with cases which, to a superficial observer, might be mistaken for abscess of the heart, where a false membrane, the organized result of a former inflammation of the pericardium covering the heart, and perhaps effecting an adhesion with the

opposite pericardial surface, becomes the seat of subsequent inflammations, and of suppuration, which may appear to sink into the substance of the organ. We have examined the recorded cases of suppuration of the heart with some degree of care, and find but few, if any, in which there was not membranous inflammation—pericarditis, and to which our explanation would not apply. In fact the substance of the heart appears to enjoy a very remarkable immunity from inflammation and its terminations, which we attribute to the peculiarities of its organic constitution.

We felt a good deal interested in the verification of our diagnosis as to the nature of the effusion, which we affirmed to be serous, and not purulent, from the symptoms which ushered in the attack being those of ordinary acute pleurisy. We regard it as a very common mistake to consider empyema, or an inflammation terminating in purulent effusions, as of a more intense character than that which terminates in serous effusion. On the contrary, as far as regards the character of the symptoms that usher in each, those of empyema exhibit generally much less constitutional disturbance, never being attended with the sharp pain (*point du cotè*), the constant symptom of acute pleurisy when the effusion is serous, there being at most not more than a dull aching sensation, and frequently not even this. In empyema, too, often there is no excitement of the circulation, the pulse not exceeding its normal number in the minute, nor is there usually any excessive heat of skin. Such, at least, are the features of empyema, as it has fallen under our observation; and most of the subjects being of a strumous habit, the constitutional symptoms assumed the indolence of character that marks this peculiar cachexy. We should say that this disease, if we be allowed to say so, has been chronic in its character even from its origin. The description we have just given of empyema we would alone apply to empyema in which the fluid has been purulent from its commencement; what we would designate an original empyema; not to that which succeeds to a serous effusion when the operation of paracentesis thoracis has been employed, and where, when the operation requires to be repeated, the fluid is now found to be purulent matter. We would explain the difference in the effusions by the difference in the states of the system at the times when the effusions took place, that they were in fact significant of two conditions—the first, bespeaking a more healthful one; the second, where the effusion was purulent matter, a less healthful, or a more degenerate state. And it appears to us that here, too,

we find the explanation of the fact established by statistics, that the operation of paracentesis thoracis has been attended with more success in cases of empyema than in cases of acute pleurisy with serous effusion. We conceive a close analogy to exist between the results of an operation performed on an individual in vigorous health, who, perhaps, may have met with an accident peremptorily requiring immediate operation, and on one who, after having been long the subject of wasting disease, has to undergo a no less serious one, and the results of the operation of paracentesis thoracis in acute pleurisy with serous effusion, and in empyema. And, as the surgeon is more sanguine as to the result of his operation performed on the subject whose health has been run down by previous wasting illness, than on him who, up to the time of his accident requiring operation, has been in full health—so statistics have proved that the physician has more reason to anticipate a successful result to his operation in empyema than in acute pleurisy. The explanation of this would appear to be that, as the higher the animal is in the scale of beings the less tolerant is he of injury; an inferior animal will bear an amount of injury that would be fatal to man. Disease has the effect of degrading the higher animal, and bringing him down to a lower condition. But with this degraded condition he also acquires the superior patience of injury; or perhaps it might be said of him, that the conditions of his existence are now more simple; so that disease thus may be said to make some compensation for its other effects. Acute pleurisy surprises one commonly in the midst of strong health. Operation in this case resembles operation on one who, in full vigour, has been the subject of accident requiring immediate operation, while the condition of the system in empyema generally resembles that which has been brought down by long disease, so it resembles it in having come into a condition better suited to bear an injury; for we may regard an operation in the light of an injury, although undertaken for a salutary end and object.

Art. X.—*Operations for Strangulated Hernia, and their Results.* By Josiah Smyly, A.B., F.R.C.S.I., Surgeon to the Meath Hospital and County of Dublin Infirmary.

The following cases are drawn up from notes which I have preserved; and, although all the cases I have operated upon are not

given, yet, as no selection has been made, they may be fairly considered to embrace my experience. Certainly no case has been designedly omitted because its termination was unfavourable.

FORM OF HERNIA.

Of the 15 cases given, eight were those of inguinal, and occurred in males; and seven of femoral hernia, all in females. Nine of the cases recovered perfectly—viz., three of inguinal and six of femoral hernia. Of the six cases which terminated fatally five were inguinal hernia.

DURATION OF SYMPTOMS BEFORE OPERATION IN FATAL CASES.

With regard to the time the intestine has been subjected to strangulation, I find that No. 4 was operated upon four hours after the symptoms set in, and proved fatal 36 hours after the operation. No. 5 was operated upon nine hours after strangulation, and survived for 26 hours. No. 6 was operated upon 24 hours after strangulation, and survived 26 hours. No. 7 was operated upon 53 hours after strangulation, and survived six days. In No. 3, the strangulation existed for six days, and the patient survived about three weeks. No. 15, the sixth fatal case, was one of entero-epiplocele, a femoral hernia; strangulated for 36 hours, and the patient died the fifth day after operation. All the fatal cases were hospital patients.

CAUSE OF DEATH IN FATAL CASES.

In all the fatal cases peritonitis was the cause of death. In No. 7 the peritonitis was kept up by persistent strangulation and sloughing of the strangulated intestine; and in No. 4 the peritonitis was caused by extravasation of the contents of the intestine, the part which had been constricted having ulcerated through, and perforation having thus taken place. In case No. 15 the peritonitis was evidently caused by the omentum having been left in the sac. In case No. 2 the thickened omentum was cut away; and in case No. 8 it was returned into the cavity of the abdomen; and both these cases did well.

The success attending the cutting away of the thickened omentum bears out the truth of the statement of Sir A. Cooper, Mr. Laurence, and Mr. Teale, that excision of the omentum, and ligature of its vessels, is a mode of treatment "unattended with danger."

SEAT OF STRICTURE.

In five of the cases of femoral hernia the stricture was relieved by cutting Gimbernaut's ligament; in one the stricture was caused by the cribriform fascia.

No. 14 shows the importance of observing the rule to avoid any sawing motion in dividing the stricture, and simply to press the knife against the stricture till it gives way. In No. 8 the seat of stricture was in the body of the tumour, and the constriction was caused by the contraction of what was formerly the neck of a sac. The case shows how a new sac may form above an old one, the old sac being pushed further down into the scrotum. It shows how the neck of a sac can become a constricting agent independently of muscular contraction, or the pressure of tendinous rings or fasciæ.

AGE OF PATIENTS.

The ages of those who recovered after operation were—males, 20, 50, 62; females, 20, 24, 70, 80, 58, 35.

The ages of those who died were—males, 70, 32, 40, 45, 59; female, 34.

CHARACTER OF THE SAC.

The strength of the sac is found to vary considerably. No. 3 is an example of a hernial sac of great thickness.

Case I.—*Strangulated Inguinal Hernia; Operated on upon the Third Day of its Strangulation; Recovery.*—P. L., aged 20, a servant, subject to reducible inguinal hernia on right side. On Friday he was heaving a large stone, when he felt severe pain in his rupture. He was unable to reduce it. Various means were used by the village doctor, but unsuccessfully; amongst others, croton oil was given to force a passage. On Sunday I found him in intense agony; he had his buttocks up against the wall, and was resting on his neck and shoulders. No impression could be made on the tumour by the taxis. The usual operation was immediately performed, and the sac opened into. A large quantity of fluid was found in it, and a small knuckle of intestine. When this was returned, a considerable quantity of serum flowed out from the cavity of the peritoneum.

Some hours after the operation the patient was bled, and was put upon calomel and opium, by which means the inflammatory symptoms were relieved, and he made a good recovery.

CASE II.—*Strangulated Entero-Epiplocele; Inguinal Hernia; Operation; Recovery.*—P. D., aged 62 years, a labourer, has had a reducible inguinal hernia, on the right side, for the last 10 years; he has worn a badly-fitting truss. He was admitted into the Meath Hospital, September 14th, '62, with the symptoms of strangulation, which had existed for the last 24 hours. A turpentine injection was immediately administered, 30 drops of solution of morphia given, and the taxis tried, assisted by a warm bath, at 103 degrees of temperature, and patient put under the influence of chloroform. All having failed, the operation was performed at half-past four o'clock, p.m. On opening the sac, a considerable quantity of dark-coloured fluid was discharged. The chief bulk of the tumour was found to be composed of thickened omentum, which surrounded the strangulated intestine. On freeing the stricture, the intestine was easily returned, but the omentum was so thickened and enlarged as to prevent its reduction. Having secured the neck of the omental tumour with a dressing forceps, the mass was cut away; the arteries were tied with fine silk, the ligatures being left long. The truncated portion was allowed to remain in the neck of the sac; the lips of the wound were brought together by three points of suture, &c.; calomel and opium ordered. Seventeen hours after the operation, it was reported that he had a good night; no vomiting.

Sept. 22nd. Abscess has formed in the scrotum, which was opened this day. 28th. Two more abscesses have formed.

Oct. 6th. Able to wear a truss, and to sit up.

Nov. 12th. Have just heard that D. is quite restored to health.

CASE III.—*Strangulated Inguinal Hernia; a Very Thickened Sac a source of Error; Death.*—J. H., aged 70, for some time subject to reducible inguinal hernia on right side. He never wore a truss. The intestine became incarcerated on Monday, Jan. 22nd, 1848; on the 25th he was sent from the country, and admitted into the Meath Hospital. The taxis, assisted by O'Beirne's long tube, large cupping glasses applied to abdomen and pulled so as to make a tendency to a vacuum, turpentine enemata, &c., made a very considerable alteration in the shape and size of the tumour. My impression was that the intestine was reduced, but that omentum remained strangulated. A warm bath was ordered, and afterwards ice to the tumour. 26th. Patient vomited last night, but not since; bowels have not been freed; he is delirious; the tongue is coated white, and brownish in the centre; pulse frequent. In

consultation, at 10 o'clock, it was determined to postpone operating till 3 o'clock. It was the opinion of all that the symptoms were not now depending upon strangulated intestine, and that the tumour contained omentum only. At 4 o'clock it was agreed upon to operate. The sac was found to be enormously thickened; it contained nothing but serum; the lower part of the sac was cut away; its walls were half an inch thick; the wound was closed by sutures.

Feb. 3rd. Eighth day after operation. Tongue cleaning; wound suppurating; a small spot of the skin of the scrotum is sloughing. 12th. Wound healing. 13th. Left the hospital, being anxious to return home.

I have since learned that H. gradually sunk, and died some days after getting home.

Case IV.—*Strangulated Inguinal Hernia; Operation Four Hours after Strangulation; Death, by Peritonitis, Thirty-four Hours after the Operation.*—M. C., aged 32, has had reducible inguinal hernia for the last 15 months. At 8 o'clock, p.m., got a fall, which caused a larger protrusion of intestine than usual to take place; this was attended with great pain. He was carried to the Meath Hospital an hour after the occurrence; when a warm bath was given, blood was taken from the arm, and cupping glasses applied to the abdomen. A tobacco enema was given to assist the taxis. I saw him at midnight, and found him in a state of collapse from the tobacco enema, but suffering intense pain from the hernia. Entreating that he should be "cut open," or anything else done that would give him relief, the operation was then performed. Much difficulty was experienced in returning the intestine; it was distended with gas. The contents of the sac consisted entirely of small intestine. Two arteries being tied, the wound was closed by sutures, adhesive plaster compress, and bandage; 20 drops of Battley's sedative were given, but immediately after rejected from the stomach. One grain of opium in a pill ordered. The following day the report was most favourable. He got immediate relief after the operation. There was no tension nor tenderness of the abdomen; no vomiting nor hiccup; bowels had acted freely; tongue rather white; great thirst; pulse 100. In the afternoon, 15 hours after the operation, great pain and tenderness of the abdomen set in, with vomiting. Venesection was performed; calomel and opium ordered; a drachm of mercurial ointment placed in the axillæ, and a blister applied to the abdomen. Third day, it was reported that he was much relieved

by the bleeding; but this morning he was found in a collapsed and dying state; he expired at 10 o'clock, a.m., 34 hours after the operation. On *post mortem* examination, it was found that the intestine, where it had been strangulated, had sloughed, and a small perforation had taken place, which was the immediate cause of the peritonitis. The sac was found distended by fluid, which led to the supposition, during life, that the intestine had again descended.

Case V.—*Inguinal Hernia on Right Side; Strangulated only for Nine Hours when Operation was Performed; Died Twenty-six Hours afterwards of Peritonitis.*—A man, aged about 40, subject to reducible inguinal hernia, on right side, for the last 14 years. Having gone to bed in a state of intoxication last night, he was roused, at three o'clock this morning, with symptoms of strangulated hernia. He was brought to the Meath Hospital at six o'clock, a.m., January 9th, 1845. At half-past 12 o'clock, noon, nine hours after first symptoms appeared, the taxis, and all means to assist it, having failed, the operation was performed, and the protruded intestine (which was intensely red) was reduced. There being evidence of general peritonitis, the patient was bled from the arm, in the afternoon, and calomel and opium given. Notwithstanding all the efforts that were made, the patient sunk, and died in the evening. On *post mortem* examination extensive peritonitis was discovered; no cause, except the previous strangulation, could be found.

Case VI.—*Strangulated Inguinal Hernia; Operation performed Twenty-four Hours after Strangulation; Fatal in Thirty Hours.*—A man, aged 45 years, subject to reducible inguinal hernia for two years, which became irreducible on December 24th, 1845. He was treated by a practitioner, for an enlarged gland, for 24 hours. On the 25th he was brought to the Meath Hospital. The taxis having failed, the operation was performed at 12 o'clock, noon. 26th. Considerable abdominal tenderness; inclination to vomit; pulse frequent; anxious countenance; ordered 12 leeches to the abdomen, a blister to the epigastrium, and a turpentine enema to be given immediately.

December 27th, he died, 30 hours after the operation, of peritonitis.

Case VII.—*Strangulated Inguinal Hernia; the Seat of Strangulation not Discovered; Sloughing of the Intestine; Peritonitis;*

Death.—W. I., aged 59, a coachman. At noon, on the 5th Jan., 1846, while riding one horse and leading another, the one on which he was riding stumbled, and the other darted forward, and dragged him forcibly against the pommel of the saddle. He made a violent effort to pull up the falling horse, and felt a "giving way, accompanied with a tearing pain, and spasms in the lower part of the abdomen." On the 7th he was brought to the Meath Hospital. The taxis, assisted by venesection to 30 ounces, tobacco enema, &c., having failed, it was resolved upon to operate at five o'clock, p.m. The sac was found thickened. It, to the surprise of all, contained nothing but dark, tarry, and fetid blood. The ring was divided; the patient expressed himself as having obtained relief; the finger was introduced into the cavity of the abdomen, and turned all round, but no intestine could be discovered connected with the ring. The wound was closed; calomel and opium ordered to be given every three hours. The symptoms of strangulation continued unabated—viz., the hiccup and stercoraceous vomiting. On the night of the 13th he died. On *post mortem* examination there was evidence of intense peritonitis; effusion of lymph coating the intestines; of a bloody fluid in the cavity of the peritoneum; the intestines were found distended with flatus; a small knuckle of intestine, completely sphacelated, was found in a pouch behind the cord, in the situation of hernia by direct descent; it was quite concealed by the old hernial sac. At the operation it eluded the observation of the most experienced and discerning of my colleagues.

Case VIII.—*Strangulated Inguinal Hernia; Stricture in the Body of the Sac; Operation Forty-eight Hours after Strangulation*; *Recovery.*—R. M., aged 50, a hairdresser, has had a reducible inguinal hernia, on the right side, for nine months. It came on in consequence of over-exertion while running.

On March 8th, 1841, symptoms of strangulation set in. Patient had eaten bacon and cabbage for dinner the day previous. When admitted into the Meath Hospital he was exceedingly low and faint; pulse was small and frequent; countenance pale and sunken; had frequent vomiting and hiccup; O'Beirne's long tube and other means to assist the taxis were employed; but, as no impression could be made upon the tumour, the operation was performed at 11 o'clock, a.m., on the 10th. This case presented a peculiarity, inasmuch as the stricture was found in the body of the sac, between its superior and middle third; the intestine above the constriction

was soft and reducible, that below was thickened, and felt solid; it was highly vascular, and its surface coated with lymph; there was a deep depression between the sound and strangulated intestine; there was a considerable portion of fatty and thickened omentum, as well as intestine, in the sac; it required some manœuvring to reduce the protrusions. The wound was closed with four points of suture; a compress and bandage were applied. In four hours reaction was established; 10 ounces of blood were taken from the arm, and a draught given, with 20 drops of acetum opii, immediately after the operation; two grains of calomel and half a grain of opium to be given every two hours.

11th. Going on well; quite free from pain, vomiting, &c.; countenance calm; pulse 80.

This patient recovered, but was liable to protrusions of the intestine. Two years after his recovery he had an attack of strangulation. He was seen seven hours after the first symptom appeared; and the hernia was reduced by the taxis, assisted by the application of ice to the tumour, and a turpentine enema. The most decided advantage was derived from acetate of morphia, half a grain given every half hour.

The state of the case was very unpromising at first. The tumour was so large that it could not be grasped in the two hands; it was extremely hard, and very painful, and patient had frequent vomiting. However, after the second dose of morphia, the whole was replaced.

Case IX.—*Strangulated Femoral Hernia, Right Side; Operation; Recovery.*—Miss C., aged 20, has had a hernia for some months. She was told by a medical man that the tumour in her groin was an enlarged gland. She paid no particular attention to it. One evening she was seized with pain in the tumour, followed by vomiting, and immediately sent for assistance. The taxis, assisted by the application of ice, &c., having been tried during the night, next morning, in consultation, and assisted by Mr. Cusack, the operation was performed, 12 hours after symptoms of strangulation set in. The patient recovered without a bad symptom.

Case X.—*Strangulated Femoral Hernia; Stricture Divided without Opening the Sac; Cure.*—M. R., aged 24, servant, subject to crural hernia, on right side, for last two years. She states, that during this period it had become incarcerated six times; and that having suffered violent vomitings for eight or

10 hours, the protrusion returned spontaneously. She was admitted into the Meath Hospital on the morning of the 14th of January, 1837, in a state of collapse; pulse 60, feeble; vomiting occasionally; intense pain both in the tumour and in the abdomen. Ice was applied to the tumour, and large exhausted cupping glasses to the abdomen, by means of which traction was used so as to elevate the parietes, and draw in, as it were, the hernial tumour. The taxis having failed, and hiccup having come on, it was determined, in consultation, to operate. On the cribriform fascia being divided, above and below the tumour, it was manifest that the constriction was relieved; gentle pressure was employed, and the intestine was returned, without opening into the sac. The patient expressed herself as freed from all uneasiness the instant the intestine was replaced.

The wound was dressed in the ordinary way, and the patient made a rapid recovery.

Case XI.—*Strangulated Femoral Hernia; Operation; Recovery.*—Mrs. F., aged 70 years, subject to reducible femoral hernia, right side, for the last 20 years. She has worn a truss. On the 5th of February, 1858, a small knuckle of intestine became incarcerated; on the 8th severe vomiting set in. All attempts at reduction having proved useless, on the 10th February the operation was performed. The stercoraceous vomiting continued for some time after she was removed to her bed; the symptoms gradually subsided; the bowels acted well on the 11th. She made a good recovery.

Case XII.—*Femoral Hernia; Strangulated for about Thirty Hours; Operation; Cure.*—Miss W., aged 80, affected with bronchitis; of regular habits, and very temperate; subject, for some time, to reducible femoral hernia, but never wore a truss. On the 22nd of March, 1851, the protruded intestine became strangulated. Next morning bilious vomitings set in, when she sent for assistance. Terebinthinate enemata were administered, and ice was applied to the tumour. The taxis was persevered with for seven hours. The ordinary operation, by opening the sac, was then performed; when visited, four hours after, she was free from vomiting and pain; the pulse was still frequent; small doses of calomel and opium were ordered. On the 13th day after she was sitting up—the wound nearly quite healed. Miss W. lived for many years, and had no return of the hernia.

Case XIII.—*Strangulated Femoral Hernia; Operation; Cure.*—Mrs. W., aged 58, subject to reducible femoral hernia on left side, for some years. She wore an inefficient truss. The hernia had been strangulated for 22 hours. The taxis, assisted by tobacco enemata, having failed, the operation was performed. There was an immense quantity of fat external to the sac, which rendered the operation difficult. The stricture, at the neck of the sack, being divided, the bowel, which was of a dark livid colour, was returned. Immediate relief of all the symptoms followed the operation. The patient made a good recovery.

Case XIV.—*Strangulated Femoral Hernia, unattended by Constipation; Vermiform Appendix in the Sac; Operation; Recovery.*—Mrs. G., the wife of a physician, aged 35, having eaten greens at dinner, was seized with colicky pains in the stomach at night. In the morning she perceived, for the first time, a tumour in the right groin; she had no vomiting, but nausea; she, that evening, took aperient pills, which operated in the night. May 31st, 36 hours after first symptom set in, sent for assistance. The tumour, which was of an oblong shape, and not as large as an egg, was quite irreducible. Ice was applied. June 1st., calomel, followed by sulph. of magnesia, given; *bowels were affected.* The taxis having failed, the operation was performed at seven o'clock, p.m. The sac was found full of bloody serum. The vermiform appendix alone was found strangulated. This case did well; there was neither fever nor inflammation after the operation. She made a rapid recovery.

Case XV.—*Entero-Epiplocele; Femoral Hernia; Operation; Omentum Left in Sac; Peritonitis; Death on Fifth Day.*—A female, aged 34, subject to reducible hernia for 16 years. The operation was performed on the third day after the strangulation took place. Besides a knuckle of intestine, a considerable portion of omentum, converted into a solid mass, was found adhering to the sac, and caused much difficulty in discovering its neck. The stricture being freed, and the intestine returned, it was determined upon to leave the omentum in the sac. The wound was closed by sutures, &c.; calomel and opium were ordered, and leeches to the abdomen. Third day after operation—no tenderness on pressure over the abdomen, nor any symptom of peritonitis. Fourth day—peritonitis has set in; ordered 20 leeches, a blister to the abdomen, and calomel and opium. She died on the fifth day after the operation.

Post mortem examination.—A large quantity of purulent matter

was found in the cavity of the peritoneum; the portion of intestine which had been strangulated had so recovered as not to be distinguished from the other intestines; the omentum in the sac was much inflamed, and was evidently the source from which the peritonitis sprung.

It was remarkable in this case that the obturator artery was given off from the epigastric, and ran a great risk of being wounded. It must have been pushed upwards on the bistoury used as a wedge. Had a sawing motion been given to the instrument the artery must have been cut; it was found crossing the wound in the fascia, just as the cross stroke in the letter A.

Art. XI.—*On the Causes and Treatment of Closure and Immobility of the Jaws.* By Christopher Heath, F.R.C.S., Assistant Surgeon to, and Lecturer on Anatomy at, the Westminster Hospital.

Cases of permanent closure of the jaws from cicatrices within the mouth, &c., are not of very rare occurrence; but their description and treatment seem to have been very generally neglected by modern English authors. Erichsen, Pirrie, Druitt, and Skey make no mention of the affection; and Samuel Cooper, in the last edition of his *Surgical Dictionary* which he revised, merely refers to a case treated by Valentine Mott, who, in 1831, operated on a case of sloughing of the cheek, with subsequent closure of the jaws, by transplanting a piece of skin; but he enters no further into the treatment. In the *new* edition of *Cooper's Dictionary*, 1861, Vol. I, the only passage I can find, bearing on the question, is the following, under the head of "Cicatrization":—

"In the mouth, after sloughing of the cheek and gums from profuse salivation, the cicatrized surface is so rigid as scarcely to allow of the separation of the teeth, but it becomes more pliant in time." This latter statement, however, is not borne out by general experience.

Mr. Fergusson, in the last edition of his *Practical Surgery*, p. 602, says:—

"The lower jaw occasionally becomes so closely bound to the upper, that the teeth cannot be sufficiently separated to admit of solid food. This condition may arise from inflammation and

adhesion of the gums, more especially after necrosis of the alveolar processes; sometimes it is the result of chronic contraction of a muscle; occasionally it has been accompanied with anchylosis, both here and in other joints, of which there is a remarkable specimen in the possession of Mr. Dubreuil, of Montpelier, in which, however, a similar condition was not present in any other part of the same skeleton; and in certain examples it is difficult to say what is the cause. Some years ago I had a patient with the mouth thus contracted, and in whom there was a portion of the lower jaw in a state of caries; the disease was not in such a condition that I could, with propriety, attempt its entire removal. A portion of bone, however, was excised, but little benefit resulted, and what there was might probably be attributed more to the use of a screw-dilator than to the partial removal of what I considered a source of irritation. Mott has succeeded, in two instances, in relieving such permanent adstrictions; and in the first volume of *The Provincial Medical and Surgical Journal*, there is a case recorded wherein I was fortunate enough to produce a similar effect, by dividing the masseter on one side with a narrow knife, passed from the mouth between that muscle and the skin. If anchylosis be the cause of closure, it is doubtful if the surgeon would be justified in interfering. In the course of my experience I have seen many instances of the kind above referred to, but feel bound to state that most of my attempts at improvement have utterly failed."

By far the most complete account of this affection, however, is given by Dr. Samuel Gross, of Philadelphia, in his large work on surgery, from which I take the following quotation:—

"*Anchylosis or Immobility of the Jaw.*—This distressing affection, which may be produced in a variety of ways, may exist in such a degree as to render the patient entirely unable to open his mouth, or to masticate his food.

"The most common cause, according to my observation, is profuse ptyalism, followed by gangrene of the cheeks, lips and jaw, and the formation of firm, dense, unyielding, inodular tissue, by which the lower jaw is closely and tightly pressed against the upper. Such an occurrence used to be extremely frequent in our south-western states during the prevalence of the calomel practice, as it was termed, but is now, fortunately, rapidly diminishing.

"Children of a delicate, strumous constitution, worn out by the conjoint influence of mercury and scarlatina, measles, or typhoid

fever, are its most common victims; but I have also seen many cases of it in adults and elderly subjects. In the worst cases there is always extensive perforation of the cheeks, permitting a constant escape of the saliva, and inducing the most disgusting disfigurement.

"Secondly, the affection may depend upon anchylosis of the temporo-maxillary joints, in consequence of injury, as a severe sprain or concussion, or arthritic inflammation, leading to a deposition of plastic matter, and the conversion of this substance into cellulo-fibrous, cartilaginous, or osseous tissue. I have met with quite a number of such cases, several in very young subjects.

"Thirdly, the immobility is occasioned by a kind of osseous bridge, extending from the lower to the upper jaw, or from the lower jaw to the temporal bone; such an occurrence, however, is not common, and is chiefly met with in persons who have suffered from chronic articular arthritis.

"Finally, immobility of the jaw may be caused by the pressure of a neighbouring tumour, especially if it occupies the parotid region, so as to make a direct impression upon the temporo-maxillary joint.

"However induced, the effect is not only inconvenient, seriously interfering with mastication and articulation, but it is often followed, especially if it occur early in life, by a stunted development of the jaw, exhibiting itself in marked shortening of the chin and in an oblique direction of the front teeth.

"When complicated with perforation of the cheek and destruction of the lips, the patient has little or no control over his saliva, and is so terribly deformed as to render him an object, at once, of the deepest disgust and the warmest sympathy.

"The treatment of this affection must depend upon the nature and situation of the exciting cause. When the difficulty is in the joint, occasioned by the formation of cellulo-fibrous adhesions, the only thing that can be done is to break up the adhesions, upon the same principle as in anchylosis of any other joints. For that purpose—the patient being thoroughly under the influence of chloroform—the jaw is forcibly depressed, either by a wedge made of cedar-wood or by an instrument constructed on the lever-and-screw principle, and figured by Scultetus in his *Armamentarium Chirurgicum.*

"When the immobility depends upon the presence of inodular tissue, the proper remedy is excision of the offending substance, an operation which is both tedious, painful, and bloody, and unfortunately, not often followed by any but the most transient relief,

owing to the tendency in the parts to reproduce the adhesions, however carefully and thoroughly they may have been removed. There is the same remarkable disposition in these cases to the contraction and regeneration of the inodular tissue as in the case of burns and scalds.

"During my residence in Kentucky I had a large share of such cases; and, although I never failed to make the most thorough work—not unfrequently repeating the operation several times, at intervals of a few months—it is my duty to state, that few of them were permanently relieved. After the excision is effected the patient must make constant use of the wedge, wearing it for months and years so as to counteract the tendency to re-closure.

"Immobility of the jaw, caused by the formation of an osseous bridge, might possibly be remedied by the removal of the adventitious substance by means of the saw and pliers. The great difficulty, however, in such an event, is the obscurity of the diagnosis."

Omitting any further allusion to the second variety of anchylosis here referred to by Dr. Gross, viz., anchylosis of the temporo-maxillary articulation (of which there is a very perfect specimen in the Museum of Guy's Hospital, No. 1070), I will pass to the rigidity caused by cicatrix, or by a bridge of bone, good examples of both of which affections have lately been under treatment at the Westminster Hospital—one by Mr. Barnard Holt, and two by myself. And I am also enabled, by the kindness of Mr. J. G. French, to refer to an excellent example of anchylosis produced by a bridge of bone (Fig. 1.) which occurred

Fig. 1.

under that gentleman's care, at the St. James's Infirmary, and which he reported in the *Medical Gazette* (July 4th, 1845). The patient was 22 at the time of his death, and the closure of the jaws dated from infancy; and he was fed through an aperture made by the removal of the incisors on the left side. At the age of 14 an operation for his benefit had been undertaken by an eminent surgeon, and incisions in the mouth had been made with this object, but without any good result. On *post mortem* examination, the jaws were perfectly united on the left side, and only the smallest degree of motion was possible on the right; the soft parts were removed, and the base of the skull was macerated, when anchylosis was discovered to exist between the lower and upper jaw on the left side, the ramus of the inferior maxilla immediately internal to the mental foramen extending upwards by a broad thin plate, and uniting with a corresponding plate of the superior maxilla—a cartilaginous material forming the bond of union. The articulation of the jaws was normal.

Before giving the details of the more recent cases, however, I must refer to an essay by Dr. Frederic Esmarch, Professor of Surgery in the University of Kiel, on *The Treatment of Closure of the Jaws from Cicatrices*,[a] in which he investigates the pathology of the affection, and describes an operation for its relief, by the formation of an artificial joint in the lower jaw—an operation which gave most satisfactory results in one of the cases under my own treatment.

Professor Esmarch says:—

"Injuries to the mucous membrane of the cheek damage the mobility of the lower jaw in a greater or less degree by their cicatrization, as is well known.

"The cause of this anchylosis of the lower jaw is often thought to be a growing together of the inner surface of the cheek with the bones or gums; this is not a correct view, however, and has, in many cases, led to improper treatment. In order to clear up this error it is necessary to examine the conditions which, in health, make movements of the lower jaw within the mouth possible. The cavity of the mouth is divided by the alveoli and teeth into an inner and outer space; the latter is closed in front by the cheeks and lips, which form an elastic dilatable sac; within this the rows of teeth

[a] Die Behandlung der narbigen Kieferklemme durch Bildung eines künstlichen Gelenkes um Unterkiefer. Kiel, 1860.

can be separated from each other, even with the lips shut, and much farther when the mouth is opened. The inner surface of this sac is covered by a mucous membrane which is also very dilatable and elastic, and which forms a duplicature at the upper and lower boundaries of the outer cavity of the mouth, where it is reflected on to the outer surface of the bone, and ends on the edges of the alveolus as gum. This membrane is so elastic that when the mouth is open to its widest extent it is still by no means put on the stretch; whilst, when the mouth is closed, it presents no folds.

"It is clear that as soon as this dilatable sac shrinks together, loses its elasticity, or is replaced by a rigid substance, the mobility of the jaw must either be injured or entirely cease. This happens most frequently through the formation of cicatrices which follow ulceration or sloughing of the mucous membrane of the mouth, as from mercurial stomatitis or noma.

"The occurrence of what we call secondary cicatrix atrophy, or cicatrix contraction, is sufficiently well known. As soon as the cure commences, the movable parts of the neighbourhood, so far as they can be, are drawn by the shrinking of the newly-formed tissue towards the cicatrizing spot; slowly, it is true, but with almost irresistable power.

"If there are no parts in the neighbourhood which can be drawn together to repair the loss of substance, there necessarily follows a cicatrization of the surface; but the cicatrix remains thin, tender, and stretched to a great extent for some time at least after its formation; it is only after it has existed for a long time that it assumes a more ductile condition, so as to become something more like the natural skin or mucous membrane.

"If, therefore, the mucous membrane of the cheek be completely destroyed from one alveolus to the other, on both, or merely on one side, the resulting cicatrix must necessarily tend to press the jaws more and more closely against one another, the depressor muscles of the lower jaw being quite incapable, as experience has shown, of preventing the contraction of the cicatrix. When cicatrization is complete the elastic ductile mucous sac of the cheek is found to have disappeared, and instead of it the cicatrix tissue stretches so tightly from one alveolar edge to the other that it is scarcely possible to put the finger between it and the rows of teeth; and the teeth themselves can be separated only a little, if at all, or only shifted from side to side very slightly.

"Just the same immobility of the lower jaw follows cicatrization after sloughing involving the whole thickness of the cheek, although here the opening of the mouth is widened as far as the anterior edge of the masseter muscle, or still farther; and in this case, too, the cheek sac is entirely destroyed. In these cases it is the *quasi* lip or posterior margin of the gap which stretches tightly from one jaw to the other. If, in such cases, one is successful in covering the loss of substance by dividing the skin or by transplantation of a flap, the cicatrization of the inner surface of the flap (being uncovered by mucous membrane) necessarily has the effect of increasing the immobility of the lower jaw.

"As far as is known there are few or no means available to check the shrinking of cicatrices. It is one of Diffenbach's great services to surgery that he gave this theory its full value; it was he who first taught us to place a proper value upon this action of nature, and showed how to make it available for operative procedures under certain circumstances. Thus, he first taught how to cure the closure of the mouth by covering the margin with mucous membrane; to form eyelids which do not adhere to the globe or roll inwards after cicatrization; and many other methods which we now consider self-evident in plastic surgery.

"Also, for the treatment of the worst cases of cicatrized contracted jaw, Diffenbach has given the most rational advice when he suggests, after the separation of the cicatrix from the bones, to lay over the surface of the wound a sound flap of mucous membrane. Unfortunately, in most cases, this cannot be done, because, just in the neighbourhood of the cicatrix it is impossible to find more healthy mucous membrane. Instead of the mucous membrane one can undoubtedly do as Jaesche did (*Med. Zeitung Russlands*, 27, 1858), viz., make use of a flap of skin for a lining; still it is difficult in many cases to get such a flap from the immediate neighbourhood. I would not hesitate, however, in desperate cases—as, for instance, where there is a great deficiency on both sides, to take a flap from the skin of the arm.

"All the hitherto received methods, such as the freeing or cutting through of the cicatrix from the mouth—the separation of the whole cheek, in order to accomplish this perfectly—the extirpation of the mass of cicatrix—the application of mechanical apparatus, in order to drag the jaws asunder by degrees, &c., &c., can only be of avail in those cases where, in some angle or other, there is found a remnant of mucous membrane. If one succeeds, after separation of the

cicatrix, in preventing, by the application of mechanical means, for a long time, the cicatrization in the undesirable direction, the contraction will take place in another direction, and by degrees will drag the remnant of mucous membrane up to the skin. In every case it takes years before such methods can be properly estimated; for, as far as is known, the secondary shrinking of a cicatrix takes place very late, even after complete or sufficient healing over has occurred. Putting aside the more favourable cases, there still remain a number of patients of this kind, in whom the usual methods produce no lasting cure, just because there is no more old mucous membrane left; and for these cases I recommend the formation of an artificial joint in *front* of the contraction, in order to give, at least, the other half of the jaw some, although a limited motion, and so to lessen considerably the sufferings of those unfortunate patients.

"The formation of an artificial joint in the ramus of the jaw has already been recommended and tried by Diffenbach (*Operative Chirurgie*, I., 435), but *behind* the contraction, and naturally without any good result, since the impediment to motion lies more forward, and thus is not removed. Von Brüns has also operated in this manner without success."

This proposal of Professor Esmarch's to form a false joint in front of the cicatrix was suggested to him by a case which came under his care in 1854, in which considerable destruction of the cheek and contraction of the cicatrix had occurred, together with immobility of the lower jaw and necrosis of a portion of it. The necrosed portion was fortunately in front of the cicatrix. The bone having been removed, it was found that mobility was restored, and a useful amount of movement obtained. Professor Esmarch thereupon suggested, at the Congress at Göttingen, in 1855, the removal of a piece of bone in cases of contracted cicatrix; but did not happen to meet with a case suitable for the operation until after it had been successfully performed by Dr. Wilms, of Berlin, in 1858, shortly after which he himself operated upon a case at Kiel, and with the best results. The operation was subsequently performed by Dittl, of Vienna (*Oest. Zeitschrift für praktike Heilkunde. Vienna*, 1859. Vol. V., p. 43), and by Wagner, of Königsberg (*Annali di Medecina di Koenigsberg*, 1859, Vol. II., p. 100).

Shortly after this proposal of Esmarch's, it would appear that Professor Rizzoli, of Bologna, quite independently conceived a

somewhat similar idea, but modified the proceeding by merely cutting through the jaw, without removing any portion of bone. He operated in this way first in 1857, and subsequently had three other successful cases. In Rizzoli's cases no external incision appears to have been made, but the section was accomplished from the mouth with powerful forceps. This proceeding has been followed by Professor Esterle, from whose essay in the *Annali Universali di Medicina* (*Omodei*, Vol. CLXXVI.) I have extracted these particulars.

Esmarch's operation appears to me to possess a decided advantage over that of Rizzoli, in the fact that a piece of bone is removed, by which the formation of a false joint is facilitated, as we know by experience in cases of resection of the elbow, &c.; and the external incision can never be a matter of any importance, whilst it admits of the application of the saw, and so avoids risk of splintering the bone.

Mr. Mitchell Henry was, I believe, the first surgeon to put Esmarch's operation into practice in this country, he having performed it a few weeks before myself. The patient was a female, on whom a variety of operations had been performed, and, among others, division of the masseter, and whom I had had under my own care at the St. George's and St. James's Dispensary, two years before, when I divided the cicatrices freely and screwed the mouth open, but without permanent benefit. Mr. Henry employed the chain saw, and removed about half-an-inch of bone. The patient, unfortunately, sank a few days afterwards, apparently from pyemia and exhaustion. In my own case I used an ordinary Hey's saw, in preference to the chain, and was enabled to remove sufficient bone to give free movement, through a small incision along the edge of the jaw. I quote the details of the case from my hospital case-book:—

Barton B., aged 15, admitted, July 1st, 1862, into Luke ward of the Westminster Hospital, with closure of the jaws. In the winter of 1855, the boy, whilst living in Cosham, Hants, suffered from extensive necrosis of the upper and lower jaws; but whether the direct result of a blow, or the consequence of fever, is doubtful. He came under the notice of Mr. Martin, of Portsmouth, in the beginning of 1856; and that gentleman removed several pieces of bone, including the first permanent molar and undeveloped bicuspids of the upper, and two temporary molars of the lower jaws of the

right side, besides several smaller pieces. Contraction of the cicatrices within the mouth supervened, and he was unable to unclose the jaws. In this state he was sent up to Mr. Fergusson, at King's College Hospital, in July, 1856, and that gentleman divided the cicatrices within the cheek, and screwed the mouth open, but without permanent benefit; for, in a fortnight, his condition was nearly as bad as before, and he has, for the last six years, imbibed the whole of his nourishment between his teeth, or by putting soft food through an aperture between two teeth on the right side.

On admission, the mouth was firmly closed, the upper teeth overlapping those of the lower jaw. There was a cicatrix at the right angle of the mouth, and a dense band could be felt within the mouth on the same side. The boy was feeble, and complained of not being able to fill his stomach with food.

Fig. 2.

Fig. 2 shows his condition at this time, when it was only by drawing the lip down with the finger that the teeth could be brought into view, the lower incisors being partially hidden by the upper, which were closed firmly upon them. On the 8th of July, the boy having been placed under the influence of chloroform, Mr. Heath made an incision, two inches long, at the lower margin of the jaw, on the right side, in front of the masseter. The facial artery was divided, and a ligature at once applied; after which the

tissues were dissected up, and the jaw exposed. The cicatrix of the lip having been divided, so as to give more room, a narrow saw, with a movable back, was passed through the first incision, and up under the cheek, and a cut made in front of the rigid band of cicatrix and molar teeth. Mr. Heath soon found that he was cutting against a tooth imbedded in the jaw, and therefore at once removed it with the elevator, after which the section was rapidly completed. The mouth was now opened, and it was found that the jaw, in front of the section, was devoid of teeth for half an inch; the saw was therefore applied again, immediately behind the canine tooth, and a wedge-shaped piece of bone removed.

The hemorrhage from the dental artery was free for a moment; but was arrested by pressure with the finger. The piece of bone included the entire thickness of the jaw, and measured rather more than a quarter of an inch along the upper, and half an inch along the lower border. It contained the mental foramen, and the end of the fifth nerve. The wound was plugged with lint, a bandage applied, and the patient carried to bed. In the evening there was a little hemorrhage, which was controlled by removing the plug of lint, and replacing it with a dry piece. The boy was comfortable, and able to take fluid nourishment. He was ordered 12 ounces of wine, and a morphia draught at night.

July 9th.—Has had a good night. The face and jaw are tender and a little swollen. The plug of lint was removed from the mouth, as it produced pain.

10th.—Wound healthy. Ordered myrrh lotion to wash out the mouth with.

14th.—Takes bread, arrowroot and beef tea. Is able to masticate readily. Ordered middle diet and extra bread. Can open the mouth to the extent of about an inch. The wound is granulating healthily, and the ligature has come away.

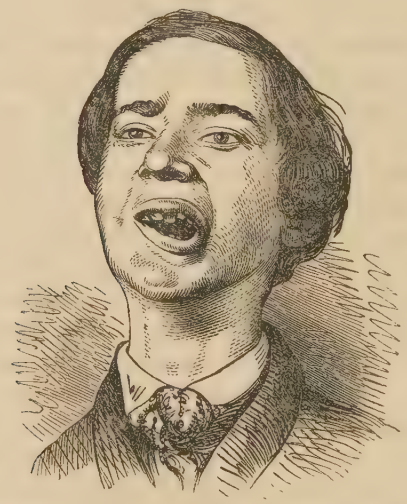
17th.—Ordered hard biscuit to eat, in order to exercise his jaw, and keep his teeth in order.

24th.—State of mouth very satisfactory; he is able to open it to the extent of nearly an inch, though the movement is necessarily one-sided. The first molar tooth of the right side was seen growing into the mouth; it was, therefore, extracted by Mr. Clendon. Wound of face granulating.

August 7th.—Discharged, to go to Walton for a month. The movement of the jaw is most satisfactory. Wound healthy, but not yet healed. Health much improved.

September 2nd.—Returned from Walton quite stout, and able to open his mouth most satisfactorily. When open to its extreme limit (Fig. 3), the distance between the molar teeth is seven-eighths,

Fig. 3.



between the central incisors three-eighths, and between the left lateral incisors, five-eighths of an inch; the small distance between the incisors being partly due to the one-sidedness of the movement, and partly to irregularity of the teeth. The amount of lateral movement is more than might have been anticipated, and the new joint gives no inconvenience. The amount of anesthesia, consequent upon the division of the nerve, is very small, only extending close around the incision, where he has an occasional numbing pain.

The boy has continued in the most satisfactory condition up to the present time, and there would appear now to be no further possible danger of contraction, since the parts where the joint was formed were healthy, and the diseased contractions have in no way been interfered with. That a false joint in the jaw is not a matter of any considerable inconvenience is proved by a case which has lately been under my care, viz., a soldier who was struck, two years ago, on the right angle of the jaw by a bullet, which fractured it, and gave rise to necrosis. The man continued in the army until a few months back, and was able to take his proper food without difficulty, although a false joint had formed at the seat of injury.

The second case of closure of the jaws, to which I have alluded, came under my colleague Mr. Barnard Holt's care, within a few

days of the admission of my own; and that gentleman, after witnessing the results of Esmarch's operation in the former case, adopted the plan proposed, and successfully carried out, by Mr. Clendon, dental surgeon to the Westminster Hospital, in a case under the care of the late Mr. Benjamin Phillips, and also in another in his own practice, viz., to divide the cicatrices freely within the mouth, separating the cheek freely from the jaws, and then employ mechanical means to prevent the reformation of the contractions.

The details of the case, and its treatment, will be best learnt from the following notes of the case; but I may say at once, that the results attained far exceeded my expectations, and that both Mr. Holt and Mr. Clendon may be congratulated on the exceedingly favourable result produced.

The only drawback to this mode of treatment, and one with regard to which it contrasts unfavourably with Esmarch's proceeding, is the amount of pain which the patient must, of necessity, undergo during the after-treatment. It requires no small amount of courage on the part of the patient, and some determination on the part of the attendant, to carry out the necessary manipulations within the mouth, more particularly during the first few days after the operation; and even after the shields are fitted to the mouth, they cause some pain and inconvenience, which only those who have arrived at years of discretion will submit to. The following notes of the case were kindly placed at my disposal by Mr. Holt:—

Frances H., aged 17, was admitted into the Westminster Hospital, under the care of Mr. Holt, 3rd of July, 1862, suffering from closure of the jaws.

In 1857 the patient had fever, attended with an abscess in the cheek on the right side, which led to such contraction and adhesion of the mucous membrane to the jaw as to cause great difficulty in opening the mouth. This difficulty continued to increase; and attempts were made, by direction of the surgeon under whose care she was, to force open the mouth with a spoon, frequently used, but to no purpose. Early in March, 1859, she had scarlet fever, very slightly; and in August, 1859, she was sent to the Kent and Canterbury Hospital, where several of her teeth were extracted, and an iron screw was used to force open the mouth, but without permanent benefit. On the 29th November, 1860, she was admitted into the Westminster Hospital, when Mr. Holt divided the bands of cicatrix within the cheek freely, and, by careful

dressing she obtained some power over the jaw, and was discharged in January, 1861.

On the 3rd July, 1862, she was again admitted into the Westminster Hospital, in the following condition:—

The mouth is contracted on the right side, but not sufficiently to prevent the lips from opening to expose the front teeth. The jaws are firmly closed, the upper incisors overlapping the lower in the ordinary way, leaving a space of one-sixteenth of an inch between them, through which food is introduced. The right cheek is very dense and rigid, and there is a considerable depression in it. The finger cannot be introduced beyond the canine teeth, owing to the firm adhesions of the cheek to the gums, while on the left side the mucous membrane of the cheek is free and healthy. The patient's general health is good, as she takes sufficient food, although slowly.

Operation, 23rd July, 1862.—The patient having been placed under chloroform, Mr. Holt divided the cicatrices freely within the mouth, separating the cheek from the upper and lower jaws, until the fingers reached well back to the ramus of the jaw. When this had been effected the jaw still remained fixed, and it was found that the teeth of the lower jaw, from the bicuspids backwards, had been thrust inwards, and that from the outer margin of the alveolus in this region, a firm plate of bone extended to the alveolus of the upper jaw, and effectually prevented any movement. With a narrow saw introduced into the mouth Mr. Holt succeeded in dividing this, and the mouth could then be opened; after which the remains of the ridge were removed with the bone forceps. The cheek was stuffed with oiled lint, to prevent the recurrence of the adhesions, and the patient was put to bed.

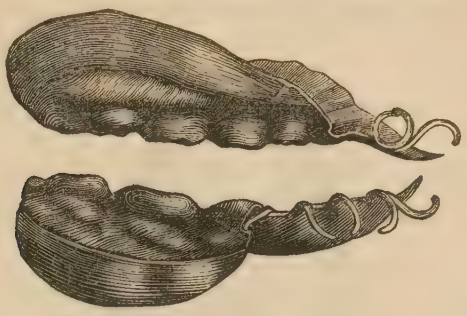
25th July.—There was considerable swelling of the face; the lint was removed, and the finger passed freely in every direction, after which the lint was replaced.

28th July.—The swelling of the face having somewhat subsided, Mr. Clendon took wax and gutta percha impressions of the mouth, under chloroform, in order to form the shields to be attached to the teeth, and inserted between the cheek and gums.

30th July.—The shields (Fig. 4) were fitted. They consist of a horizontal portion, fitting upon the molar teeth, and fastened with bands to the canine and incisor teeth, and a vertical portion which passes by the side of the alveolus to the bottom of the sulcus, between it and the cheek. The edge of this is quite thin, and

serves to cut a groove in the adhesions, which are already beginning to fill up the space.

Fig. 4.



7th August.—The shields keep thoroughly in their places; but as the cheek is still raw, wet lint is inserted between the gums and the lining of the cheek, and the finger is daily passed freely beneath the cheek, to the full extent of the teeth. Two wedges of wood were fitted to the mouth, one on each side, so as to maintain the constant separation of the jaws.

15th August.—Condition of the mouth is every way satisfactory; the gums and cheek are beginning to be covered with mucous membrane, and the discharge is slight. A band in the middle of the cheek having become rather tense and prominent was freely cauterized with nitrate of silver.

1st September.—The shields and wedges are worn without any discomfort, and the girl can open her mouth most satisfactorily. The shields effectually prevent adhesions forming between the gum and the cheek.

From this time the patient's progress was uninterrupted; she recovered perfect use of her jaw and mouth, and all tendency to recontraction seemed to have disappeared; she was kept under observation at the hospital many weeks longer than was absolutely necessary for the further carrying out of the treatment, with the view of testing the permanence of the cure; and was finally sent to the country 1st November, 1862, with the shields still in the mouth, and still wearing one of the wedges, which she had become quite accustomed to.

She returned to the hospital for a few days, in December, that the progress might be noted, and the accompanying portrait (Fig. 5, from a photograph) was then taken, for the sake of comparison with that showing the result of Esmarch's operation. The shields

were removed for five days, in order to be sketched, and no apparent change resulted from their non-use; but, for safety's sake, she is to continue wearing them for the present. The distance between the incisor teeth, when the mouth is wide open, is three-quarters of an inch.

Fig. 5.

The effect of the use of the shields seems to have been, not merely to prevent adhesions between the inside of the cheek and the alveolus, but to re-establish, to a great extent, the sulcus of mucous membrane at the base of the alveolus, upon which so much stress is laid by Professor Esmarch. Surgical experience in cases of ruptured perineum, &c., shows how soon mucous membrane is reproduced where it has once existed, or even appears on adjacent parts when its presence gives rise to inconvenience; and there can be no question, that in this case the mucous lining of the cheek has been reproduced to a great extent, and particularly near the lower alveolus. Esmarch's theory, that there must be some portion of old mucous membrane remaining which afterwards becomes stretched is certainly untenable as regards this case at least, for, without doubt, the whole lining of the cheek and the outside of the alveoli were perfectly raw, owing to the division of the firm cicatrices.

The cause of non-success in former attempts at mechanical appliances is to be found, I think, in the fact that they have all been directed simply to keeping the jaws apart, without any reference to the re-establishment of the mucous lining of the cheek, upon which, as Professor Esmarch says, the movements of the jaw

so much depend. That the success in this case depended upon this fact is proved, I think, by the existence of a firm band in the cheek which would effectually control all movement were its extremities attached to the two alveoli; but as it is, it gives no inconvenience, and will, in all probability, atrophy in the course of time.

Since the above was written I have had another case under my care, of even a more serious character than either of the preceding, owing to the fact that contractions of a most severe nature existed on *both* sides of the jaw, reaching to the angles of the mouth, which was contracted and firmly bound down to the alveoli in consequence. In this case Esmarch's proceeding was manifestly inadmissible, for a section of the jaw must, of necessity, have been made in two places to be of any benefit, and the resulting central portion of bone would have been entirely uncontrolled by the muscles of mastication. I, therefore, in December, divided freely all the cicatrix tissue on both sides of the mouth, severing, as far as possible, all connexions between the inside of the cheek and the alveoli, and opened the mouth sufficiently to convince myself that no bone had been developed between the jaws.

Mr. Clendon subsequently adapted two entire shields to the alveoli, which were modified, from time to time, as the case advanced; and the results obtained, to the present date, are most satisfactory, as will be seen by the following detailed history of the case from my hospital case-book:—

Isabella M'N., aged 18, admitted into Arden Ward, 15th Dec., 1862, under Mr. Heath, with closure of the jaws and mouth from cicatrices.

History.—When five years old she had measles (?), and is supposed to have taken mercury; and, a few months after, it was noticed that the cheek was contracting, so that when six years old the jaws were firmly closed. When about seven, she was admitted into the Dundee Infirmary, and some operation was performed, by which she was benefited for a short time, but the jaws were soon as firmly closed as before. When about 11 years old, she was admitted into the London Hospital, under Mr. Luke, who divided the cicatrices, and opened the jaws with a screw. She was in the hospital three months, and was slightly benefited for a time. Eighteen months after she was again admitted, and the same operation was repeated, oiled lint being introduced beneath the

cheeks, and wedges inserted between the teeth to keep them apart. The parents took considerable pains to keep the wedges in, and to make her move her jaws; but the contractions soon recurred, and for the last two years and a-half the jaws have been firmly closed.

Present condition.—The mouth is smaller than usual, owing to contractions at the angles, but she can show the incisor teeth, and the upper ones are seen to be firmly closed over the lower. The cheeks are firmly bound down to the alveoli from the angles of the mouth, and there is no power of separating the jaws at all; but she can move the lower jaw a little from side to side. She introduces her food through an aperture on the right side of the incisor teeth, where a tooth has been lost. She is plump and well nourished, but has not menstruated for five months.

Operation.—Dec. 16th.—The patient, having been put under chloroform, Mr. Heath proceeded to dissect up the cheek from the alveoli, by passing a knife from the mouth. The bands of cicatrix were exceedingly firm, and were found to pass not only between the gum and the cheek, but between the gums themselves; and these required free division before the mouth could be opened at all, and then only by the help of a screw. During the operation a small wedge of wood was extracted from between the teeth, where it had been for some months. Oiled lint was carefully stuffed between the alveoli and the cheek, and the patient put to bed, and given twenty minims of tincture of opium.

Dec. 18th.—The pledgets of oiled lint were removed, and the mouth well washed out. She can open the mouth for a short distance, but the movements are necessarily painful. Lint, soaked in myrrh lotion, was placed inside the cheek.

Dec. 20th.—Chloroform having been again administered, Mr. Clendon attempted to take models of the mouth, but found that the aperture was so small, and the space between the teeth so contracted, that it was almost impossible to obtain a satisfactory mould. The teeth appear to have been only partially developed, with the exception of the incisors, which also are so loose as to offer little support to a shield.

Dec. 22nd.—Mr. Clendon took moulds of gutta percha of the outer surface of the jaws, as some guide for the formation of temporary shields.

Dec. 25th.—The house surgeon was called up last night to the patient, who was bleeding freely from the left side of the mouth. He plugged the cheek with fresh lint, which arrested the hemorrhage.

A second hemorrhage occurred in the afternoon, and the blood came from quite the back of the mouth, between the cheek and alveolus, on the left side. Mr. Beadles (H. S.), finding that a coagulum had formed, which had stopped the hemorrhage, left it undisturbed.

Dec. 26th.—Mr. Heath saw the patient, who was rather reduced by the bleedings, but thought it better not to disturb the clots for another day. Ordered eight ounces of wine and beef tea.

Dec. 27th.—A severe arterial hemorrhage occurred this morning, and was arrested by clearing out all clots, and syringing the mouth with cold water. Twelve ounces of wine, beef tea, eggs.

Dec. 29th.—No more hemorrhage has occurred, but the patient has become somewhat anemic. Mr. Heath thought it would be safer to postpone any further interference with the case for a week, so as to allow her to recover fully from the loss of blood. The mouth to be simply syringed out with warm water and myrrh lotion.

5th Jan., 1863.—The patient having been put under the influence of chloroform, Mr. Heath carried his finger freely between the cheeks and the alveoli, breaking down the soft adhesions which had begun to form. Mr. Clendon then removed some stumps of teeth and all the incisor teeth (except one of the upper centrals), which were loose; and then succeeded in taking more satisfactory moulds of gutta percha, from which the shields might be made.

7th Jan.—Under chloroform, silver shields were fitted upon the alveoli, the edges of which passed between the alveolus and cheek. Blocks of gutta percha were wedged between them, to keep the jaws apart.

10th Jan.—Fresh shields, with deeper sides, were inserted, under chloroform. The remaining incisor tooth came away, and several stumps were removed.

14th Jan.—Bone wedges were fastened on to the shields to keep the jaws apart, and to permit of greater cleanliness than was possible with the gutta percha. To use a lotion of chlorinated soda frequently.

21st Jan.—Under chloroform, Mr. Heath made a thorough examination of the mouth, and found everything in a satisfactory condition so far. The sulcus on each side of the mouth has considerably increased in depth, and the finger can be carried between the gum and cheek, as far back as the wisdom teeth, on each side. The mouth is kept well open by the bone wedges, and the absence

of incisor teeth gives plenty of room for the introduction of food. Mr. Clendon extracted several stumps, and then took fresh moulds of the mouth. The old shields and bone blocks were then re-inserted.

28th Jan.—Under chloroform, the shields were removed, and having been relined with soft gutta percha, were replaced. The mouth opens very satisfactorily, and the soreness is diminishing.

4th Feb.—Under chloroform, fresh shields, with deeper edges, were introduced, which kept the mouth widely open.

12th Feb.—Some little swelling about the right eye has come on during the last day or two, but is gradually subsiding under fomentations.

28th Feb.—The patient is able to move the jaw to a slight extent, even with the shields in the mouth, and the case seems to be going on satisfactorily.

28th Feb.—The shields were removed, under chloroform, having been *in situ* three weeks, and were lined with some fresh gutta percha, so as to fit more accurately to the alveoli. The mouth has increased in size, and the sulci on each side of the alveoli are much deepened.

11th March.—The shields were removed, under chloroform, and the bone blocks cut off, their places being supplied by movable wedges of hard gutta percha, so as to permit the patient's removing them when eating, and thus to exercise the jaws. The granulations in each cheek were touched with nitrate of silver.

25th March.—Under chloroform, the adhesions between the lips and the alveoli were divided by Mr. Heath, and fresh silver shields were then fitted, the edges of which were purposely made deeper in front, so as to free the lips from subsequent contractions.

On the 2nd April I took a careful measurement of the extent to which the jaws could be separated, and found that there was a distance of exactly one inch between the metal shields, in the situation of the incisor teeth. As the shields have some gutta percha beneath them, and do not, therefore, fit closely upon the gums, it will not be necessary to allow much more than a quarter of an inch for the absent teeth, making the present aperture considerably over half an inch, if the teeth were *in situ*. This must be allowed to be a very satisfactory result so far; and the distance will probably be increased, as the patient has been supplied with beech-wood wedges, which she introduces and wears, between her meals. When the mouth is widely opened the lining of the cheeks can be seen between

the shields, and it is already assuming something of the appearance of mucous membrane. The mobility of the lips, and hence the size of the mouth, have increased considerably since the last operation; and, as far as I can see, this case promises to be as successful as the preceding one.

It has thus been shown that cases of closure of the jaws by cicatrices are amenable to two modes of treatment, and with most satisfactory results; and having had personal experience in carrying out both methods, I shall venture to draw a brief comparison between them.

Esmarch's operation is a comparatively easy proceeding; and, in cases where only *one* side of the jaw is affected, restores the patient a very useful, though one-sided, amount of masticatory power in two or three weeks, and with very little suffering or annoyance. One side of the jaw is, however, rendered permanently useless (its previous condition), and there is a necessarily resulting deformity which is not, however, of a very distressing character. The paralysis, from the division of the nerve, is so slight as not to be worthy of mention.

The treatment by internal division, and the use of metal shields is applicable to *all* cases, and can, with due care and attention, be made to yield most satisfactory results—the patient enjoying the full use of both sides of the jaw, and having no deformity nor loss of sensation. On the other hand the operation itself is difficult and bloody, and the after-treatment is tedious and troublesome; and it is essential for success to have the coöperation of a dental practitioner, fully conversant with the frequent modifications which the metal shields must necessarily undergo. The age of the patient is an important element also, since it would be impossible, I imagine, to carry out the treatment with any hope of success, unless the patient were of an age to assist, or at least not to resist, the surgeon. In my own case chloroform was resorted to on every occasion of real operative interference, but the intermediate treatment was much hindered by the timid character of the patient.

In conclusion I would suggest the propriety and feasibility of attempting to *prevent* the formation of these serious contractions by the introduction of metallic shields, of the character I have described, in cases of "cancrum oris," &c. Unfortunately these destructive disorders occur, for the most part, among children of tender years, in whom it might be dangerous to keep up constant irritation by the presence of a foreign body in the mouth; still, at

three or four years of age, it would be quite worth while to try the effect of metal shields carefully and securely fastened in *before* the contraction of the cicatrices had taken place, the appliances being changed under chloroform as often as might be necessary.

Art. XII.—*On the More Rare Nervous Diseases of Children.* By W. J. Cox, Medical Officer, Sodbury Union, Gloucestershire.

Having ample field for their study, the convulsive maladies of childhood have occupied much of my attention for some years. I now offer outlines of some cases of the less frequent forms of this class of diseased action, with brief remarks, which I trust may be deemed worthy perusal.

SALAAM CONVULSION.

Case.—In March, 1858, I was summoned to see E. F., a boy nearly three years of age, well nourished, and apparently healthy. His father was subject to occasional epileptic seizures. The mother, who called me, said that the child having been somewhat out of health for some days previously, dull and peevish, had that morning been seized, immediately after awaking from a disturbed and moaning sleep, with a fit of violent nodding of the head, accompanied at intervals by loud screaming. By the time I reached the scene the screaming had ceased, but the bowing continued. The head was projected forwards and downwards, with great force and frequency, the convulsive movements averaging 40 in a minute. Sometimes a rest of five or six minutes occurred, and then the salaams were renewed as before. At every seventh, eighth, or ninth bow a more powerful automatic movement brought the head of the little sufferer almost to his thighs. There was no strabismus, nor heat of scalp, fever, or vomiting, but the pulse was 168. The motions ceased gradually after an hour and a half's duration. The next morning they were renewed with greater violence, and went on increasing (but never occurring more than once during the 24 hours) for 18 days, when they issued in two attacks of general convulsions, after which a perfect recovery took place.

Treatment.—Calomel and rhubarb; iodide of potassium; steel; hydrocyanic acid; the warm bath; chloroform, administered internally (in the form of the so-called chloric ether). I could not perceive that a favourable impression was made on the disease by any of

these remedies, excepting the last, which, unfortunately, was not exhibited until two days before the general convulsions occurred. After these seizures the bowing fits speedily declined, both in force and frequency.

Mr. Newnham, who has written ably on this extraordinary affection, considers it of spinal origin and allied to epilepsy. I quite coincide in these opinions. In the case above given, the epileptic taint derived from the male parent, the peculiar character of the attack, its issue in general convulsions, and the impression made on it by the exhibition of chloroform, seemed to indicate its origin in the medulla oblongata. I may mention, as corroborative evidence, that in a case given in the *Journal für Kinderkrankheiten*, April, 1850, the patient became a confirmed epileptic; and that two cases, mentioned by Dr. Churchill, terminated, one in epilepsy, and the other in idiocy.

TRISMUS NACENTIUM.

Case.—Whilst residing in Lancashire, seven years since, I saw a poor infant labouring under this very rare and remarkable malady; it was 10 days old, and was the illegitimate offspring of a scrofulous factory girl of 17 years. As a matter of course, under such circumstances, it was fed on artificial food, narcotized, and horribly neglected. The place where its old nurse lived (who also tended four more innocents) was a damp wretched hovel, offensive to every sense. The symptoms were tetanoid, rigid spasms of the temporal and masseter muscles, rapidly extending to the neck and chest. No treatment was put in force, excepting a warm bath, and the poor infant died on the next day, before the rigidity had involved the whole body. Permission to make an autopsy was obtained with some difficulty; nothing abnormal was discovered in the brain or cervical portion of the spinal cord; nor had there been inflammation of the umbilical vessels, which are the lesions generally associated with the disease by authors on the subject. The intestinal canal, however, was deficient in its proper secretion, destitute of bile, and, towards its lower extremity, contained a scybalous mass, black and inodorous.

SPASM OF GLOTTIS.

Case.—It is now 10 years since I brought this subject under the notice of my professional brethren, more particularly with relation to the treatment of the malady by the inhalation of chloroform,

and the internal use of hydrocyanic acid. Dr. Churchill, in his admirable work on the *Diseases of Children*,* has done me the honour to mention my advocacy of these remedial agents. Since that time I have, with some success, associated with them the *internal* administration of chloroform. I am accustomed always to use the chloroform diluted with an equal bulk of alcohol, for the purpose of *inhalation*, and to prescribe chloric ether as its best and safest form for *internal* use. My views, then, with respect to the pathology and treatment of this malady are generally in accordance with those of Dr. Hugh Ley, long since published, so far as they extend; but, in addition to these, my own observations emboldened me to offer with confidence the following propositions:—

1. That irritation of the fifth pair of nerves is the *most* frequent of *all* existing causes of the disease.

2. That, after all *local* sources of irritation have been removed, there often persists an undue *centric* irritability of the spinal cord, prolonging the symptoms; especially if the attacks have been severe and frequent before treatment.

3. That the malady is remotely allied with epilepsy; and that an analogy is traceable between it and the epileptoid seizures of a later period of life.

4. That chloroform is often of remarkable efficacy in cutting short the length, and also lessening the frequency and severity of the paroxysms (inhaled).

5. That to fulfil the indications presented by proposition 2 the *internal* exhibition of chloroform, hydrocyanic acid, and the preparations of iron, is the most successful line of treatment.

I shall now proceed with a brief detail of cases.

Case I.—Male, aged 11 months, of strumous diathesis. First paroxysm cut short by dashing water in the face; the second yielded only to chloroform. Cod-liver oil, and hydrocyanic acid, for four weeks, completed the recovery.

Case II.—Female, aged two years; scrofulous; had had seven or eight violent attacks. Found her almost in a state of coma, respiration all but suspended. The warm bath had been already vainly tried. The inhalation speedily gave relief; and an interval of three days occurred before the next attack. Citrate of iron was then given, perseveringly, for the period of 10 weeks, with

* Second Edition, pp. 239, 240.

hydrocyanic acid (one third of a minim Scheele's strength, three times a-day). A perfect cure resulted.

Case III.—A strumous girl, three years old. About two months previously she had received an injury, from a fall, over the dorsal portion of the spine, ever since which she had suffered from attacks of laryngeal spasm; at first at intervals of two or three days, but gradually increasing in frequency. No relief was obtained from treatment, and the case ended fatally, 12 weeks from its commencement. A *post mortem* was made with the results following:—The larynx, bronchi, and lungs were perfectly sound; but on opening the vertebral canal, at the upper part, the cause of the fatal seizures was plainly apparent. The dura mater of the cord was extremely vascular; and a thin layer of pus was spread over its surface, on a space extending from the foramen magnum to the fifth cervical vertebra; the arachnoid membrane was also, for the same distance, thickened and opaque. These morbid appearances did not correspond with the situation of the bruise received from the fall, which was considerably lower down the spinal column.

Case IV.—Female, aged 18 months. Father epileptic. In this case, I am convinced that but for the inhalation of chloroform death would have resulted. The attack continued, at intervals, for two years; but regulation of diet and the use of hydrocyanic acid at last effected a cure.

Case V.—Male, aged 21 months. Mother subject to fits. Had suffered much from teething, which was always attended with more or less crowing. The chloroform was repeatedly inhaled with great advantage. The gums lanced, and the acid administered. The result was most favourable.

Case VI.—A boy, four and a-half years of age, of unhealthy aspect, and emaciated frame. The paroxysms of laryngismus were very frequent and severe. In addition there were also present dysphagia and alteration of the voice, with occasional fits of syncope, unaccompanied with difficulty of breathing. During such attacks the face was deathly pallid, and the extremities cold; the pulse was generally feeble and indistinct. No treatment much availed, although the exhibition of iron seemed to benefit for a brief time. He died before completing his fifth year. Having obtained leave

to open the body, I discovered a lesion very unusual in so young a subject, viz, an aortic aneurism involving the recurrent nerve.

Case VII.—Male, aged two and a-half years. Had three or four severe attacks previously to my seeing him; the last nearly proving fatal. Chloroform was used in this case, both in inhalation and medicine, and with speedy success. Four months' treatment sufficed for a perfect cure.

Case VIII.—Female, aged two years. Mother and mother's brother subject to (epileptic?) fits. This child was stout, and, apparently, robust. The attacks were uncommonly severe, threatening immediate death. Chloroform was inhaled with great advantage, and afterwards given internally, with iodine and iron. The child gradually recovered, and is now a fine strong girl.

Case IX.—A boy, aged 18 months. The paroxysms in this case were of very long duration, but not of extreme severity. A brother of the child had previously died in convulsions. The appearance of ascarides indicated iron and purgatives, which did great service; but the attack, although much lessened, did not cease. The internal use of chloroform soon effected a cure. In this case no inhalation was thought necessary.

Case X.—Male, aged 10 months; stout and plethoric. Great dental irritation. No persuasions could induce the parents to allow lancing the gums, which ought certainly to have been done. Purgatives were freely given, and afterwards chloroform in a mixture. The seizures soon greatly abated both in force and frequency. The parents removed to a distance shortly afterwards, and I lost sight of the case. I have since heard that the child died in convulsions, at the age of two years.

Case XI.—A girl of two years of age, was suddenly seized with a violent fit of the crowing inspiration in the night. The mother, a very intelligent person, sprinkled water on the child's face, and applied the warm bath. These means proving successful, medical aid was not then sought. But, a fortnight afterwards, a still more severe paroxysm occurred in the day time, whilst the child was playing with its elder sister. I was then summoned. Chloroform having been inhaled, and a purgative given, no further attack took

place for three months, when the malady was renewed with increased violence. The seizures now took place twice or thrice daily. Strangury and tetanoid spasm of the sphincter ani also was observed at intervals, showing the reflex action of the spinal nerves. Chloroform and steel was now given, internally, and with astonishing success. The seizures entirely ceased in three weeks, and never afterwards recurred.

Case XII.—A female, aged 18 months. This child had a drunken parent, and was very ill-nourished. She had also swelled cervical glands and strumous eczema of the scalp. The attacks of crowing were very frequent, but not of great severity. The gums were swollen and tender, and three teeth only had come through. I lanced the gums, gave iron and chloroform in combination,[a] and applied dilute ointment of nitrate of mercury to the scalp. Improvement was rapid and permanent. The eruption was cured in five weeks, whilst the laryngeal spasms had greatly diminished. A steady perseverance in the use of the medicine, and a generous nourishing diet, completed the cure.

Case XIII.—A male, aged only nine months. The crowing fits were not very violent, but extremely frequent. Indeed the child's breathing was, for the most part, laborious and noisy. As this case did not seem to call for alteratives or tonics, there being but very slight disturbance of the general health, chloroform alone was given in syrup, and with marked benefit; although the child continued to be affected with the spasm, at irregular intervals, until it had completed its second year.

Case XIV.—A female, aged 14 months. This child had been brought up on artificial food, and was, moreover, scrofulous and wan. The diet was carefully regulated, and cod-liver oil tried, at the expressed wish of the friends. This being rejected as soon as swallowed, hydrocyanic acid was then given, and afterwards chloroform and steel. The general health rapidly improved, and the laryngismus declined in the frequency of its attacks. It continued to recur, however, at intervals, for a period of 9 or 10 months, when it finally ceased.

[a] My favourite formula is as follows:—Tincture of perchloride of iron, of chloric ether, each one drachm; water four ounces; mix. Dose: a dessert spoonful for a child three years of age.

Case XV.—A female, a year old. Most violent and frequent attacks. Lancing the gums put a stop to them at once; and four or five months elapsed before they recurred. Chloroform was then prescribed, with steel, which was persevered in, the child being anemic, for nine months. The fits soon ceased, and returned no more.

Case XVI.—A boy, 14 months of age. Enjoyed perfect health until about a year old, when he had an attack of general convulsions, followed by strabismus and partial paralysis. Laryngeal spasm, of intense severity, supervened, almost immediately, which defied all treatment. A slight amelioration, of a few days duration, was terminated by another convulsive seizure, which carried him off in less than an hour.

Case XVII.—A fine boy, 6½ years of age. This child (the *oldest* subject of laryngismus I ever saw) was first attacked with paraplegia, being quite unable to move his lower limbs for three weeks. The source of this being detected, viz., intestinal worms, purgatives and iron were, of course, prescribed. Whilst under treatment, laryngeal spasm came on each night, and did not entirely cease until the boy had regained the use of his limbs. The purgatives being withdrawn, a small dose of chloroform was added to the iron; and a perfect cure was the result, in less than a month.

CEREBRAL IRRITATION.

This condition, called by the late Marshall Hall, "hydrencephaloid disease," and most ably described by him, and also by Dr. Churchill, is certainly, from its marked and insidious character, and its fatality when misunderstood or neglected, well worthy our most attentive study. The two following cases will illustrate these views:—

Case I.—A female child, 14 months of age, to whom I was summoned, presented the following appearance:—Flushed face, hot skin, pulse 140, white tongue. The infant was restless, peevish, intolerant of light and motion. She lay in a kind of disturbed sleep, for the most part, moaning almost constantly, and occasionally screaming, as if from alarm. The bowels were very relaxed, and the evacuations watery and somewhat greenish. There was no vomiting. The eyes were dull, and the pupils dilated. The

parents, who had been reading some popular medical book, thought it a case of water on the brain, and were most anxious for me to order leeches, &c. Upon inquiry, I learnt that the child had been recently weaned; and that all the bad symptoms had come on since the change of food. The child had had no acute disease of any kind. I had some difficulty in inducing the friends to adopt my theory of the real nature of the malady. The treatment consisted in giving support, by means of nourishing diet (veal broth—which I prefer to beef tea for infants—milk, &c.); and the administration of ammonia, combined with small doses of opium, until the condition of the pupil altered; when the opium was withdrawn, and the ammonia continued with citrate of iron Recovery was speedy and permanent.

Case II.—A little boy, between three and four years of age, who had just recovered from a severe attack of measles, complicated with broncho-pneumonia. When called to the child, I was told that the "fever in his chest had flown to his head the day previously, and that he now had effusion on the brain." I found him lying in a half-stupor, pale, and cold, moaning and sighing at intervals. The eyes were half closed and the pupils dilated, and almost insensible to the stimulus of light. There was some restlessness, jactitation, and sickness. The pulse was very feeble and frequent, and it was evident that death, by asthenia, would soon occur if the tendency thereto was not arrested. The diagnosis in this case did not present so much difficulty as in Case I. The history of the little patient's previous exhausting disease, and the facts elicited by questioning the parents as regards the child's state two days before, indicated, I thought pretty clearly, that the condition in which he was when I was called had been *preceded* by a stage of excitement similar to that described as characterizing the state of the patient in Case I. The treatment, which was quite successful, consisted in the application of sinapisms to the feet, in order to overcome the disposition to coma; the plentiful administration of nourishment, as soon as the child was sufficiently roused; and the exhibition of tonics, combined with diffusible stimulants.

PARALYSIS.

A little boy, nearly two years of age, who had previously suffered much from painful dentition, requiring lancing of the gums and alterative medicines, became suddenly lame of the right lower

extremity, which was found one morning to be quite powerless and insensible. On examining the mouth, the gums, over two molars which were not yet through, were found hot and tender. These were freely incised, a purgative given, and the child placed in a warm bath. The power of motion, however, did not return in the paralysed limb, although sensibility was partially restored. Stimulating embrocations were then ordered, and a strict watch kept on the general health. At the expiration of six months (up to this date) there is but little improvement. The child is still unable to walk, and the affected limb is beginning to shrink, and its temperature is lower than that of its sound fellow.

Another case, which was placed under my care about three years since, presented some interesting features. The patient was a little girl, four years of age, of scrofulous diathesis, but generally healthy and intelligent. She had always suffered from headache, but up to within a very short period of my seeing her, had no acute disease of any kind. Lately she had three attacks of vomiting, without any manifest exciting cause; not preceded by nausea, and occuring on first awaking from sleep. She complained, during the intervals of these attacks, of giddiness, dimness of sight, and more violent headache than usual. At last, one morning, she was found to be completely paralysed in the right leg and arm, which were rigid and insensible. The child now seemed dull and apathetic, making no complaint, taking food and drink with avidity, but making no improvement. She remained in this state, with no mitigation of the paralysis, but improving in general appearance, and, indeed, getting fat, for more than four months, when she was suddenly seized with general convulsions, which rapidly subsided into coma, of which she died in 30 hours. The parents were no less anxious than myself for a *post mortem*. On opening the skull, the source of the symptoms soon was revealed: a tumour, consisting of an aggregation of masses of tubercle (nine in number), was found imbedded in the *pons varolii*. There was effusion of serum in the fourth ventricle, which was probably the immediate cause of death. I confess that in this obscure case, the symptoms had not guided me during life to a correct diagnosis. I may mention, that the irregularity of the pulse, spoken of by Dr. Charles Johnson[a] as being generally diagnostic of tumours of the brain (in the absence of lesions of the heart and great vessels), was not present in this case, from first to last.

[a] Churchill's Diseases of Children, p. 198.

I have notes of another interesting case, which I saw for a medical friend last year, of paraplegia, in a boy six years old, which terminated fatally—the autopsy showing a large calculus blocking up the pelvis of the right kidney.

Art XIII.—*Practical Observations on the Injurious Effects of Chloroform Inhalation during Labour.* By Robert Johns, A.B., M.B., T.C.D.; Licentiate of the King and Queen's College of Physicians, Ireland; Licentiate and Fellow of the Royal College of Surgeons in Ireland; Member of Council of the Surgical Society of Ireland; Member of the Royal Zoological Society of Ireland; ex-Assistant-Master of the Dublin Lying-in-Hospital; late Consulting Accoucheur to Saint Peter's Parochial Dispensary; Honorary Member and Honorary Vice-President of the Dublin Obstetrical Society; Chairman of the Midwifery Court, and Examiner in Diseases of Women and Children, Royal College of Surgeons in Ireland; Consulting Accoucheur to the Coombe and Maternity Hospitals, &c., &c., &c.

As, at the present time, the subject of chloroform inhalation is again *sub judice*, I feel it incumbent upon me to raise my voice against its employment in midwifery, and to lay before my professional brethren my reasons for the adoption of such a course, which I sincerely trust shall have some weight with the unprejudiced, and which may, perchance, call the more serious attention of some, if not of all, of those now too deeply wedded to its use, to the dangerous, and too often fatal, results consequent thereon, in which, if I but even partially succeed, I shall consider myself well repaid.

From experience, repeated observation, and the published, as also the otherwise expressed opinions of those who agree, as well as of those who disagree with me upon the subject, I am firmly convinced that chloroform, when inhaled during labour, very fruitfully predisposes to hemorrhage, puerperal inflammation, chest affections, and to other diseases detrimental to health and life, which it aggravates if given during their presence. It also lays the foundation of diseases to arise at a more distant period, and thus increases the mortality in childbed and subsequent thereto. I have known puerperal inflammation frequently to have followed its inhalation, and too often with a fatal result; in fact, some years since, when it was more

fashionable, and was given with a more lavish hand, a great mortality obtained amongst the patients of some few men who administered it—so much so that a popular outcry was raised against its employment. In the majority of those cases puerperal fever was the cause of death, which, when thus raised, being, as I firmly believe, always infectious or otherwise communicable, became epidemicized, after which even those who wisely refused the drug, "charmed it never so sweetly," were thus inadvertently, and, in some instances, hopelessly poisoned.

In support of these positions, I shall first refer to the several published Reports of the Dublin Lying-in-Hospital. We find, on reference thereto, that during the masterships of Drs. Collins and Johnson,[a] when chloroform was not inhaled, that the mortality was much less than during that of Dr. Shekleton,[b] when this "pernicious drug was used"—as thus:—In the first report are recorded 16,414 deliveries and 164 deaths, or 1 in 100; in the second, 6,634 deliveries and 65 deaths, or 1 in 102; whereas in the third, 13,748 deliveries are given, and 163 deaths, or 1 in 84!! But of these last 13,406 cases were not chloroformed, of which only 133 died, or 1 in 100; and of the remaining 342, who took the drug, 30 died, or 1 in 11!!! If, again, we examine the reported cases of chloroform administration by Simpson and Denham, we shall find that of 245 cases mentioned by the former, 5 died, or 1 in 49; and of 56 by the latter, 5 died, or 1 in 11!! And, by adding all these recorded cases together, we have a mortality on the whole of 1 in 16!!! By again consulting those reports, we perceive that in Dr. Collins' mastership there occurred 97 cases of post partum inflammation, or 1 in 169; in Dr. Johnson's 62 cases, or 1 in 107; but in Dr. Shekleton's 150 cases, or 1 in 91. Of those 150 cases, 20 followed upon chloroform inhalation, or 1 in 17!!! and in the remaining 130 cases, in which it was not employed, the average mortality was only 1 in 103. In Denham's report we find 4 cases, or 1 in 14; which, with all the recorded cases, strikes an average of 1 in 16½!!!

We also find that, during Dr. Collins' mastership, puerperal convulsions proved fatal in the proportion of 1 in 6; whereas in that of Dr. Shekleton, when under chloroform, it amounted to 1 in 3!! and in Denham's cases to 2 in 3!!! or, on the whole, to 1 in 2⅝!!!

It appears that, during Dr. Shekleton's tenure of office, post partum

[a] By Drs. Hardy and M'Clintock.
[b] By Drs. Sinclair and Johnston.

hemorrhage occurred but once in every 257 cases when chloroform was not used; yet after its inhalation this complication was present in 1 of every 49 cases. In Dr. Denham's report it was present in 1 of every 19 cases; making, on the whole, an average occurrence of 1 in every $39\frac{4}{5}$ cases.

With respect to the mortality after perforation, the report of Drs. Hardy and M'Clintock shows 1 fatal case in every 6, and that of Drs. Sinclair and Johnston 1 in every 5; but if we go a little below the surface in the latter report, and examine into 99 cases of perforation, all of equal severity and danger, we shall discover that of the 29 cases in which chloroform was inhaled 9 died, or 1 in $3\frac{1}{4}$; puerperal inflammation occurred 10 times, or 1 in every 3 cases; and hemorrhage followed in 3 cases, or 1 in every 10; whereas, of the 70 cases in which this drug was not employed, only 6 women died, or 1 in every 12; puerperal inflammation arose only in 3 cases, or 1 in every 23; and in no case did hemorrhage occur.

Many have testified to the fact that uterine action has been lessened, and even caused to cease, by anesthetics; as also that their effect on some is not commensurate with the quantity of the drug employed—as thus: a very large amount not having any effect upon some, whereas the inhalation of a very small dose, even of a few drops, has produced almost deep coma in others. Dr. Denham says:—"In some, if left to nature, the labour would probably have been completed in a somewhat shorter space of time. The advantages to be gained by chloroform in some cases will not be found an adequate compensation for the loss of power sustained in the muscles of animal and organic life; and, were we to continue its use, I do believe that the patients would remain undelivered for hours, or even days. The cases that apparently require it most—tedious and difficult labours—are those where it often appears to be injurious, by weakening the pains or relaxing the muscles of animal life." Rigby says:—"We meet with cases, every now and then, where chloroform undoubtedly retards labour, and in some cases likely to call for the use of the forceps."

Dr. Robert Lee mentions cases in which "uterine contractions were arrested, requiring the use of the forceps and perforator."

Tyler Smith "has seen chloroform stop labour midway."

In some of the cases recorded by Sinclair and Johnston uterine action was impaired.

My friend, Dr. Young, of Monaghan, says, in a letter to me:—"I believe chloroform in many instances to delay the labour, by

causing the pains to come at longer intervals, and rendering the expulsive efforts of the patient less efficient, owing to her insensibility to suffering."

Merriman has mentioned a case in which "the uterus was so paralysed that it failed to act afterwards."

Snow says:—"It is true that a full dose would, at any time, suspend uterine action for a few minutes, or as long as it might be kept up."

Ferguson says:—"Chloroform does not destroy muscular action, because, when under its influence, some expel urine and feces." Now, from this, his doctrine must be that it increases muscular action; whereas, I take it that it paralyses the sphincters.

On looking into Drs. Sinclair and Johnston's report, we find "two cases in which version was very difficult; and two others, in which that operation was impossible, where chloroform had been inhaled."

Murphy thus speaks:—"In a case of version, I never experienced so much difficulty in consequence of the strong contractions of the uterine fibres about the child."

Barnes remarks:—"In many cases it does not facilitate the operation of version, the uterus resisting the introduction of the hand."

Puerperal, hysterical, and epileptic convulsions—mania, paralysis and insanity have followed on its use. Cases are recorded by Montgomery, Sinclair and Denham, in which puerperal convulsions occurred after its employment. Sinclair gives two cases of hysterical convulsions, in one of which "violent muscular action was induced; restlessness continued for a considerable time after the inhaler was removed."

Murphy states that, "in dentistry, hysterical women have been seized with fits when under its influence."

Snow asserts that "hysterical patients, as soon as they lose their consciousness from the effects of the vapour, are sometimes attacked with a paroxysm of hysteria."

Dr. R. Lee says:—"Epilepsy has been so induced."

Sinclair records one case of epilepsy.

Snow and M. Fix have stated "that persons subject to epilepsy are likely to have a fit brought on by inhaling chloroform."

Ramsbotham "saw three cases of puerperal mania so caused. A friend of his also saw one similar case."

Sutherland "met three other cases, similarly produced."

Tyler Smith stated "that he had seen mania from its use."

Parks relates the case of a lady who had chloroform in her third labour. "She, after delivery, complained of violent pain in the head, became delirious, tore the nurses gown and the bedclothes into pieces, and was perfectly maniacal."

Mr. Banner thus speaks:—"A patient became delirious, and continued so during the day and greater part of the night, after its use."

Haartman "saw a case of headache terminating in paralysis, caused by this drug."

In one of Dubois' published cases, numbness of the fingers, and in another the same condition of the legs supervened, and had not subsided at the end of 24 hours.

In Denham's report I find one case of coma after chloroformic inhalation.

Doctor R. Lee says "that insanity has followed on its employment; that dangerous and fatal peritonitis and phlebitis have been caused by its inhalation."

Two or three of Denham's cases were seized with rigors; and Lee mentions "others with dangerous fits of syncope;" and in this he is borne out by the following, which I find recorded amongst Denham's cases:—"While inhaling, the pulse became very weak, and she gave no signs of consciousness; and, immediately on the birth of the child, the respiration of the patient ceased, and the pulse became imperceptible; the application of cold water to the face soon revived her, and she went on favourably for some days; but diarrhea, with extensive inflammation of the mucous membrane of the ileum, set in, and she died on the fourteenth day."

Sinclair and Johnston record nearly a similar case, as thus:—"The pulse suddenly became imperceptible, and respiration appeared to have ceased. She subsequently died of phlebitis." And they give another in which collapse occurred, and she died with symptoms of phlebitis.

Tyler Smith says "that he knew two ladies in whom a few drops of chloroform, at any time, would produce repeated fainting."

I am acquainted with a lady who, some time since, had a very severe attack of syncope from taking only five drops of chloroform in a draught.

Dr. Barnes stated—"That he had himself given chloroform to facilitate the extraction of an adherent placenta, and had witnessed such exceeding prostration for eight hours afterwards, as to make

him, and another practitioner who assisted him, apprehensive of the instant death of the patient."

Many are of opinion that the inhalation of chloroform predisposes to laceration of the perineum; indeed, some of the published cases would tend to favour this idea. In Sinclair and Johnston's Report, we find that, in the recorded cases, it occurred once in 27 cases; and when not employed, the accident happened only once in 93 cases. In the same work we find three cases of chest affection aggravated by this means, two of which succumbed. Dr. Ringland, one of the Masters of the Coombe Lying-in Hospital, in reply to a letter from me, thus writes:—

"I have seen chloroform frequently used in puerperal convulsions, and have used it myself in connexion with the practice of the Coombe Lying-in Hospital; and the conclusion I have come to is, that I will never again use it, or sanction its use, in puerperal convulsions. I have observed that, however satisfactory its employment may appear at the time, it has been almost invariably followed by bronchitis, within about 48 hours, and that the patients have sunk rapidly under the latter affection. I have seen this so frequently that I cannot but look on chloroform and bronchitis, under the circumstances I have named, as cause and effect; and the mortality from the subsequent bronchitis, as the actual result of the employment of chloroform."

Ramsbotham relates the case of "a lady who was seized with dyspnea, with excessive lividity of the face, and all the signs of engorgement of the lungs and heart, and died in convulsions six hours after."

Murphy has published a case nearly similar; he also admits "that vomiting, nausea, and headache sometimes follow on its use." Nausea and vomiting were also present in one of Denham's cases.

Rigby states, "that intense sick headache, and even vomiting, are consequences of its use."

I occasionally use a blistering fluid which contains chloroform, and if I am not very cautious during the *minute* I am employing it, I am certain to suffer from sick headache for the remainder of the day. Not long since, severe vomiting followed upon the inhalation of chloroform, during the operation for vesico-vaginal fistula, in one of our city hospitals; and, in spite of all remedies, lasted for six days. It is needless to say that the operation, in consequence

thereof, failed. I have so often seen this effect of the drug that I always object to its use in operations requiring the employment of sutures upon the female genitals. Thus it is evident that such a complication existing after labour would, like severe cough, predispose our patient to inflammation in parts, for whose restoration to health absolute rest is required.

Parks gives the case of "a lady in whom, after chloroform inhalation, flooding came on to a fearful extent, and incessant sickness. He managed to extract the placenta; and, owing to the feeble contractions of the uterus (and this latter condition, he is confident, it often produces), he was kept grasping it for four or five hours; the vomiting continued for eight hours without intermission, the headache remained for weeks."

Tyler Smith "believed that post partum hemorrhage and retention of the placenta occurred more frequently after its use than without it."

Montgomery was of opinion "that it predisposes to retained placenta and hemorrhage."

My friend, Dr. Young, before alluded to, says:—"I have blamed it for causing a longer detention of the placenta, and for occasional after-hemorrhage, owing to the lazy and inefficient contraction of the uterus. After its use opiates have very little effect; even very decided doses, in any form, have not been followed by that tranquillity I had hoped for, in that violent pain which I have so often found to follow operation when chloroform had been used."

Murphy speaks of making pressure on the uterus to expel the placenta, in two cases, after chloroform.

Denham had one case of retained placenta after its employment. He says:—"We had no reason to think that chloroform predisposed to hemorrhage; on the contrary, we were impressed with the idea that the number of hemorrhagic cases where it had been given were rather below than above the average in ordinary practice." This statement does not accord with my experience, and I should be sorry to think that hemorrhage so frequently complicated labour, "in ordinary practice," as once in every *nineteen cases*, as shown by his report. Some of the loudest advocates for chloroform inhalation in labour, have, in order to counteract its deleterious effects upon uterine action, recommended the co-administration of ergot of rye; which practice reminds me of the astute physician who, to be sure to hit his patient's disease, prescribed for him the combination of a stimulant with a sedative, and a purgative with a tonic. But I

hold there is a more serious objection than this to the wholesale use of ergot; for we cannot conceal from ourselves the fact that its administration, even in appropriate cases, is not always innocuous. Some years since the following case came under my knowledge:—Ergot was given to an unmarried lady to facilitate the birth of her first child, before her father, who was ignorant of her condition, had returned home to his dinner. The child was rapidly expelled, but sloughing, to a frightful amount, followed, and placed her life in jeopardy for days. And who has not seen the child sacrificed by it? For this reason, it has now-a-days become almost an axiom not to leave a female undelivered for a longer period than two hours after its employment. I believe that ergot of rye, in some cases, causes incarceration of the placenta and hemorrhage, and in others, sinks the patient; the uterus, after its use, often remains large and uncontracted for days, which state not unfrequently terminates in imperfect involution of the uterus and its consequences; which last effect chloroform also produces. Many believe that ergot, besides destroying the child at the time of its birth, acts sometimes otherwise deleteriously upon it, by inducing disease—to do so at a shorter or longer subsequent period—or to reduce it to a state to which death would be preferable.

Dr. Catlet, in the 57th volume of the *Edinburgh Medical Journal*, page 83, states that ergot of rye, when given during labour, causes puerperal convulsions, hour-glass contraction of the uterus, and infantile hydrocephalus. Amongst the cases of the last, I find one in which "symptoms of meningeal inflammation were developed on the 19th day, and the child died in convulsions, with coma, on the second day following." And in another, "the symptoms of cerebral derangement set in suddenly on the 21st day, and the child died on the third day of the attack, in convulsions."

Dr. Beatty, in a paper "On the Influence of Ergot of Rye on the Fetus in Utero," published in the 25th volume of the *Dublin Medical Journal*, p. 201, amongst other cases after its use in labour, gives the following:—"Case 7. The child had convulsions for three days after its birth." "Case 9. The child had convulsions for 48 hours after birth. They then subsided, but left the child in a state resembling paralysis, with occasionally a convulsive motion of the muscles of the face and limbs, and fixed strabismus. No treatment seemed to have any effect upon this condition. Twenty days after its birth the following report was taken:—'This child has remained in a state of insensibility up to the present time; the

strabismus has lately disappeared, but it seldom opens its eyes. The limbs are apparently powerless. It makes no effort to suck, but it swallows breast-milk with difficulty when put into its mouth. The difficulty is increasing; the bowels act naturally.' In this state the child lingered on until the 25th day, when it died." Case 12. This child he first saw when three years old; "it then had an idiotic countenance, and was never free from spasms and palsy, commencing from its birth."

Cusack and others have also testified to the deleterious effects of this drug upon the cerebro-spinal system of the infant.

Dr. Snow says that "chloroform is a volatile spirit, and that half-an-hour after its application no traces of it could be found in the system."

Now, in refutation of this assertion, Dr. Ramsbotham mentions the case of "a lady who, for four or five days after its use, could not get rid of the smell."

Dr. Aveling speaks of "a lady who had chloroform in three labours, all of whose children, when unwell, had for years afterwards the smell distinctly off their breaths. This lady would never take it agian."

In a monograph by me, on "Blistering the Os and Cervix Uteri," published in the May number of the *Dublin Quarterly Journal* of the year 1857, cases are mentioned of females having had the smell of chloroform off their breaths, evident to their friends as well as to themselves, and of others having experienced its taste, lasting, in both instances, for days after the blistering fluid containing that drug had been employed.

When sulphuric ether was first employed as an anesthetic in this country, a medical student inhaled it as an experiment in this city, and the smell of it was evident off his breath, to any one who spoke with him, for nearly a week after its employment.

Dr. Jackson (an American) thus writes upon the subject:— "When chloroform is inhaled into the lungs, the oxygen is abstracted from the blood, and, combining with the formyle, makes formic acid, while the chlorine combines with the blood as a substitute for oxygen. Thus a portion of the blood becomes chemically changed, disorganized, and rendered unfit for its vital functions. I have now a phial of blood, taken from a young lady killed by the inhalation of pure chloroform, before me, it having been kept in my office, exposed to temperatures from the freezing point to above 80°, for more than six years, and yet it has not decomposed, nor

has a single blood globule settled to the bottom of the phial, nor has the colour changed in the least." It has been denied that females, when under the influence of chloroform, make use of improper and indecent language. Now, I never shall forget the case of a lady I saw, in consultation, a couple of years ago, with an hospital surgeon, who, when chloroformed, threw her arms around him in the most endearing manner, and made use of language which would make her blush if in her senses, of which, I hope sincerely, she was never made cognizant.

Denham says:—"There are cases in which chloroform appeared to be not only useless, but, when persevered in, positively injurious." And again:—"In giving chloroform we incur a certain amount of present danger, and perchance of remote ill effects."

Dr. Robert Lee, in reply to a letter from me, says:—"I could give you a great number of cases in which chloroform was not only injurious, but fatal."

Dr. Gream said:—"He agreed with Dr. Lee in saying that we were quite unacquainted with *one-tenth* of the evil effects which had resulted from the use of chloroform, particularly in Scotland."

Dr. Duncan, in a letter to Dr. Lee, thus writes:—"Your case of chloroform death in midwifery is, to the best of my belief, not the only one in Scotland. I was called, too late, to a case which died suddenly while taking it in *small quantity*."

Dr. Campbell, of Ayrshire, records another case of death in labour from its use. Mr. Carter says "that in two cases its effects would appear to have been pernicious."

Professor Faye, of Christiana, has also recorded a fatal case of labour after its use.

Dr. Rogers said "he knew of a case where death took place apparently in consequence of its use in midwifery."

Dr. Barnes says:—"In ordinary forceps cases chloroform certainly is not required, either to facilitate the operation or to allay pain." Indeed by its use in such cases we lose one very valuable indication by our patient's want of sensibility. Dr. Chas. Kidd evidently does not consider its use devoid of danger, as he advises the physician who administers it "*always* to carry in his pocket a portable galvanic chain or battery." Drs. Kidd and Richardson are reported as having seen many deaths after its employment; and the former gentleman "to have seen about 300 cases restored to life or rescued after they had been pronounced dead." I would ask, in the name of common sense, is it within the bounds of reason to believe that a medicine

can be employed innocuously with the pregnant female, when confessedly its use has often been followed, not only by dangerous, but even fatal results under other circumstances, as testified to by Drs. Kidd and Richardson, amongst many others, as also by almost every periodical we take up? Dr. Snow, in speaking of his imagined advantage of chloroform over opium in version cases, thus writes:—"If 50 or 60 drops of laudanum were given, the patient remained under its influence, more or less, for 48 hours." Now, in this I must join issue with the doctor, for I am, and have been for years, in the habit of giving such, and even much larger doses in those cases, as also in hemorrhage, and I never yet saw such a result, or one at all approaching to it. We have been told that across the Tweed death has not, in any instance, followed upon the inhalation of chloroform in labour, whereas some have been since recorded; and not very long ago I was informed, by more than one physician practising in Scotland, that many have so occurred there, but not made public, yet well known to the profession. It is also a fact that some who have written favourably on its use have since changed their opinions, but have not said so publicly; and some give it only in name, or as has been styled *à la Reine*. The following is so apposite here that I cannot avoid quoting it from Denham:—"That chloroform may be, and sometimes is, given for the purpose of amusing patients, and making them believe that they are saved from a vast amount of pain, when in reality they have scarcely inhaled a single breath of it, I doubt not."

We very frequently see better and safer recoveries after tedious and painful than after rapid and painless labours, and the latter are not the less likely to be seriously complicated; indeed in former days, when, happy for the parturient female, chloroform was unknown, and when meddlesome midwifery was strongly reprobated, such an opinion was entertained. *Apropos*, I have two patients—one the mother of five, the other of four children—who always have rapid and, I may say, painless labours, but which are invariably followed by alarming hemorrhage, by no means an unusual occurrence, as already shown, after chloroform inhalation, besides being admittedly a fruitful predisposing cause of puerperal inflammation. In the employment of anesthetic agents during instrumental delivery we deprive ourselves of a very valuable indication in the loss of our patient's sense of feeling, which the following cases forcibly illustrate; for had such means been resorted to in either, it must be evident to all, even to the most sceptical, that the consequences

should have been most disastrous:—Mrs. D. had a very tedious labour with her first child. When about 36 hours in labour, the os uteri was found thinned and spread tightly over the head of the child, dilated to about the size of a shilling, but directed obliquely backwards and upwards, so located as only to be found by the well-educated and practised finger. Her medical attendant, having failed to discover the real state of matters, took it for granted that he only felt the head, which had passed through the fully dilated os, and proceeded, without further delay, to deliver her with the forceps; but from the great pain which she experienced from the application of its blades on the head so clothed, he was obliged to desist; and, being much alarmed, he sought for further assistance, after which the nature of the case was discovered, when, of course, all interference was given over for the time, but eventually destructive instruments were had recourse to. The other was the case of Mrs. M., very similar to the former; but the perforator was the instrument employed, which the medical gentleman pushed into the cervix expanded over the head, when her piercing cries and some slight bleeding caused him to look more narrowly into the state of the parts. She was, however, afterwards naturally delivered, and had a good recovery.

At page 333 of *The Dublin Quarterly Journal of Medical Science* for May, 1849, in the late Dr. Montgomery's essay upon "The Indiscriminate Administration of Anesthetic Agents in Midwifery," we find a somewhat similar case recorded, in which the medical man mistook the attenuated anterior section of the cervix uteri for the membranes, which he was endeavouring to perforate with his nail, when the lady's cries arrested him.

Even though it were possible to divest chloroform of its dangers, it does not, as has been already shown, always produce the advantages expected from its use, as in version; for indeed not a few instances have been recorded of its having been an impediment to this operation, which in some cases could not be overcome. I cannot see any advantage derivable from the inhalation of this poisonous drug in cases of retained placenta, as generally such a complication is caused by inaction of the uterus; and our object, therefore, ought to be to induce uterine action, surely not further to paralyse it. Such treatment reminds me of a case which I was called to see 20 years ago. The placenta had been retained for six hours, and some draining was going on. The lady's medical adviser was looking on very complacently, and dosing her with tartar emetic. Of

course there was not any difficulty in the extraction; but puerperal inflammation set in on the second day, from which she eventually, but slowly recovered. Every practical man hails after-pains as salutary, especially after quick and painless labours, and would not dream of interfering with their wholesome action, unless very severe, for some hours after delivery; yet those misguided chloroformists think nothing of interfering with that safe action at times when the advent of hemorrhage would complicate matters more seriously. The other objections to its use at other times, under certain circumstances, are equally admissible here. I think I have now demonstrated that chloroform inhalation is far from being a safe remedy in childbed, and should not then be employed.

Art. XIV.—*On the Employment of Iridectomy for the Cure of Certain Diseases of the Eye.* By J. G. Hildige, M.D., F.R.C.S.I., Surgeon to the National Eye and Ear Hospital, &c., &c.

Although the employment of iridectomy for the cure of certain inflammations of the ocular bulb has now been adopted by almost all the leading ophthalmic surgeons in Great Britain and on the continent, yet, I regret to say that in this country it has hitherto been, to a very great extent, repudiated. As I am at a loss to conceive how so valuable a remedy could be condemned without a trial, particularly by practitioners in this special branch of surgery; and as cases are being continually sent to me when the period for operating has long since passed over, I have determined to point out, as briefly as possible, the class of diseases in which I have found the operation to be of the greatest efficacy.

The operation was introduced into this country, some four or five years ago, from Berlin, as a remedy for the cure of three forms of inflammation of the eye, viz:—1st. Chorio-iritis, with exclusion of the pupil, characterized by zonular injection of conjunctiva; ciliary vessels prominent and tortuous; diminished capacity of anterior chamber; discolouration of iris; complete posterior synechia; pupil in most cases irregular, sometimes filled with exudation, and in other cases perfectly clean; vision may be but slightly impaired, or completely destroyed, according to the progress the disease has made; in the latter stages cataract is, not unfrequently, superadded. 2nd. Acute

chorio-iritis, called acute glaucoma, characterized by intense injection of the conjunctiva, epiphora, and sensibility to light; pupil widely dilated; loss of transparency of refracting media; and attended with intense pain in the eyeball and temple, and a very great degree of constitutional irritation; this form of disease may completely destroy vision in 24 hours. 3rd. Glaucoma, divided by von Graefe into inflammatory and chronic.

Inflammatory glaucoma he describes as commencing, in most cases, with presbyopia, alternating with hyperesthesia and anesthesia, until the latter prevails; the pupil becomes gradually dilated and immovable, and pain in supra-orbital region sets in. This stage may last months, even years; it may also be altogether absent. Intra-ocular pressure, when it sets in, produces blindness (amaurosis by compression) remarkably quickly, and is accompanied by intense pain in brow and temple, muddiness of aqueous humour, and deposit on posterior surface of cornea. The iris also becomes distorted and bulged forwards, and this may be accompanied by either loss of sight or a narrowing of the field of vision, with photopsia, chrupsia, &c., &c. When a still greater degree of tension of the bulb ensues, insensibility of the cornea, mydriasis, and eventually atrophy of the tissue of the iris take place. If the refracting media be not too opaque to admit of ophthalmoscopic examination, one finds constantly progressing excavation of optic papilla and pulsation of its arteries. The anterior chamber becomes smaller, the eyeball assumes a stony hardness, and the cornea loses its normal curve. What is most characteristic of inflammatory glaucoma is the repeated occurrence of internal inflammation, which, with diffuse exudation into vitreous and aqueous humours, leads, sooner or later, to complete blindness, under the phenomena of pathological increase of intra-ocular pressure, principally on the retina.

Chronic glaucoma originates insidiously, but eventually is characterized by the same phenomena as the preceding form. The anterior ciliary vessels become dilated, the bulb becomes hard, and the field of vision contracts, and gradually becomes dim from the centre to the circumference; the structure of the iris alters so slowly that the alteration can only be detected by comparison with other eyes; and it is only in advanced cases of the disease that the ophthalmoscope shows excavation of the optic nerve and pulsation of its central vessels, occurring either spontaneously or produced by pressure on the eyeball. All the symptoms of intra-ocular pressure are present, as in inflammatory glaucoma, but not so prominent. It also

frequently occurs that this form of glaucoma runs into the inflammatory, and *vice versâ*. At a later period of the disease the optic nerve and retina become atrophied.

These three forms of inflammation, although differing considerably in their pathological phenomena, yet have all one characteristic symptom in common, viz., increased intra-ocular pressure; and, in order to show the therapeutic effect of the iridectomy, I shall cite a few of the cases which have been operated on by myself, within the last two or three years, as well as others which have come under my observation:—

Case I.—J. H., Esq., of Sligo, aged about 45, of robust and healthy appearance, was sent to me, in the autumn of 1861, by Dr. Ellis, of Leeson-street. The history of his case is as follows:—Some four or five years previously he had suffered from an attack of inflammation of the left eye, for which he was leeched, blistered, and given mercury, &c., &c.; but, notwithstanding all treatment, his sight became gradually worse, and at the end of two years he became perfectly blind of the eye. His right eye remained quite healthy for some 18 months afterwards, when it also became affected, and for which he underwent a repetition of the same treatment which had been employed to check the disease in the other. According to his own statement he was now gradually going blind of this eye also. He had always enjoyed good health up to the period when his eyes became attacked, and had never suffered from gout or rheumatism. On examination I found his eyes in the following state:—Left eye of normal size, hard to the touch, and of hyperpresbyopic build; conjunctiva of a yellowish tinge; ciliary vessels prominent; anterior chamber reduced to a minimum, so that the cornea and iris were almost in apposition; iris much discoloured, and the pupilary margin adherent in its whole extent to the capsule of the lens; pupil of normal size. The lens and its capsule were but slightly opaque, the latter having a quantity of pigment—which had probably fallen from the posterior surface of the iris—deposited on its anterior surface. I could not make any satisfactory ophthalmoscopic examination. Vision in this eye was so completely destroyed that he could not see the flame of a candle held within a few inches of his face. The right eye was affected in the same manner, although the disease had not advanced so far, there being still tolerably good vision for near objects, as he could read No. 14 of Jäger's type without glasses, but at the distance of five or six

yards he could not recognize faces. I informed him that medical treatment was out of the question, and that iridectomy was the only remedy which would arrest his disease, and prevent him from becoming completely blind. I also added that the operation would, in all probability, have saved his left eye, had it been performed in an early stage of the disease. He left my house to consult his friends on the subject, and I had not an opportunity of again examining him until nearly six months afterwards, during which time his vision had become very much worse. On his former visit the field of vision was not materially narrowed; but now he could scarcely discern objects placed on his left side at the distance of two or three yards from him. He could read No. 19 of Jäger's type when held close to his face; but this with great difficulty. The anterior chamber had become much smaller, and the iris bulged forward laterally, so as almost to touch the cornea. The lens and its capsule were now slightly opaque, but the vitreous humour was so hazy as to prevent ophthalmoscopic examination. An interesting point with regard to his vision now was the extreme astigmatism for objects placed vertically before him, showing the loss of symmetry about the axis of the eye.[a] Lines, and objects such as walking-sticks, when placed before him appeared elongated almost *ad infinitum*, so that the patient declared to Mr. Colles, V.P., R.C.S., with whom I saw him in consultation, that a lamp post appeared to him as long as Nelson's monument. As the patient had now determined to submit to the iridectomy, it was performed on him immediately after the consultation, Mr. Colles remaining and assisting at the operation. The only incident worthy of notice which occurred during the operation was the profuse hemorrhage which followed the excision of the small portion of iris, the anterior chamber being filled two or three times with blood, an occurrence which I have observed in almost every case of this kind in which I have operated, and which I shall allude to when describing the *modus operandi* of the remedy. The blood which remained in the anterior chamber after the operation was absorbed in about ten days; the chamber gradually assumed an almost normal depth, and at the end of the third week vision commenced to improve, the astigmatism which had, previous to the operation, so greatly annoyed him gradually disappearing.

The improvement which took place from this period in his state,

[a] A fact first pointed out by Mackenzie, I believe, in the fourth edition of his work.

though slow, was most remarkable. By degrees he commenced to recognize large objects at the distance of five yards; and at present, one year after the operation, his state is as follows:—The disease is completely arrested; the eye has recovered its normal tension; conjunctiva assumed a healthy and natural colour, and anterior chamber of good depth. There is a large iridectomy at the internal or nasal side of iris, which has its apex at the ciliary ligament and its base at the natural pupil; the patches of pigment have, to a considerable extent, disappeared from the lower part of the capsule of the lens, which, together with the lens, is slightly opaque. There is a small space between the apex of the triangular opening in iris and the circumference of the lens, which sometimes causes double vision, particularly when he looks downwards at small objects; this, however, has almost ceased to annoy him. His sight is now so much improved that he can correspond with his friends—myself among the number—can superintend his farming operations, and can see large objects, without glasses, at the distance of ten yards from him.

The *modus operandi* of the operation in this case was two-fold: it acted immediately, taking the pressure off the retina *anteriorly*, by restoring the communication between the anterior and posterior chambers of the eye; and it acted secondarily by draining the gorged vessels of the choroid of the blood contained in them, and thus, acting as a powerful antiphlogistic, checking the inflammation of that membrane and reducing the pressure on the retina *posteriorly*. I have hitherto hesitated to publish the latter part of this explanation, *i.e.*, relative to the draining of the vessels of the choroid, inasmuch as I was not aware, until very recently, that this opinion was entertained by any person but myself. It is therefore with very great pleasure that I have lately seen it advanced by Pagenstecher as the principal means by which the operation acts on the disease.[a] The hemorrhage which followed the excision of portion of the iris in this and other cases is one of the strongest proofs that can be adduced in favour of this theory; and this has recently been corroborated, in the most conclusive manner, by a case of chronic chorio-iritis (far advanced) on which I twice performed iridectomy, the iris being quite rotten, and coming away in shreds; no hemorrhage following its incision, and the improvement which followed both operations being but temporary.

[a] This can be easily understood from the vascular connexion between the iris and choroid.

Case II.—The wife of the Rev. Mr. L., of Tralee, aged 40, consulted me in the year 1859, suffering from agonizing pain in right eye and temple, with sympathetic irritation of left eye. Her case was as follows:—Some years previously she was attacked with acute inflammation of right eye, for which she was leeched, blistered, and salivated, with considerable alleviation of her symptoms. Subsequently she suffered from a relapse of the attack, for which the same remedies were employed without effect. The sight of the eye became gradually worse; and eventually, after a long period of suffering, she became totally blind of it, the pain in eyeball and temporal region continuing to increase in frequency and intensity until she declared her life had become miserable; she was much wasted from the continual suffering and sleeplessness. On examination I found her right eye had been destroyed by chorio-iritis (sub-acute). There was no anterior chamber, the cornea and iris being in apposition; pupil excluded; lens and its capsule completely opaque, and not the slightest trace of vision remaining. The left eye was sympathetically affected, constant trickling of tears, photopsia, &c., &c., so that she was unable to use it for any length of time. I explained to the patient that the sight of the right eye was irretrievably gone, but that an operation would arrest the agonizing pain in it from which she suffered, as well as put a stop to the sympathetic irritation going on in her left eye. She stated she was quite ready to submit to any operation which would afford her a prospect of relief; consequently, a few days afterwards, I performed iridectomy on her, she having been previously placed under the influence of chloroform. Considerable hemorrhage followed the excision of the portion of iris in this case also; but the operation was followed by little or no irritation, and there was no return of the intense pain in orbital and temporal regions, from which she had suffered so long, and which had seriously impaired her general health. Three weeks later all symptoms of pain and irritation had disappeared from both eyes; and at the end of two months she returned home much improved in health and spirits, free from pain in right eye, and almost normal vision of left eye.[a] The optic nerve and retina of right eye were, in all probability, atrophied in this case.

In acute glaucoma (*i. e.*, acute chorio-iritis) the eye is so rapidly destroyed by the inflammation that unless the operation be performed

[a] Mr. Colles was present at this operation also, and saw the case subsequently.

within the first 24 hours after the acute symptoms have set in, there is but little chance of saving vision, or indeed of saving the eyeball, as the destruction of vision is generally followed by atrophy of the globe.

In the early part of the year 1860 I was requested by a medical friend to visit a lady residing in Leeson Park, who had been suffering from intense pain in right eye for some three or four days previously. On examining her I found the eye much injected, with a small anterior chamber, and slightly dilated pupil, but not a trace of vision. She had been given mercury and leeched at the commencement of the attack, but this treatment had not had any effect on the disease. She was not aware that she was blind of the eye until she closed the other, and seemed to be rather astounded that the sight of it could have been destroyed so rapidly. In this case iridectomy, performed at the commencement of the attack, would, in all human probability, have saved vision.

In cases of chronic glaucoma the operation, in order to produce a beneficial effect, must be performed before the field of vision has become much contracted, as, when this is the case, atrophy of the retina has set in, and all that we can hope for from the operation is to preserve to the patient the degree of vision that he is in possession of at the time he is operated on. When an eye has become completely blind from chronic glaucoma I need scarcely say that the operation is then worse than useless, except, indeed, to arrest the intense pain which is occasionally present in orbit and temple.

A poor woman, having both eyes completely destroyed by chronic glaucoma, was brought to my house, some time ago, by Dr. Bigger, who informed me that she had been sent to him from a special hospital, with a note stating that if iridectomy produced the slightest improvement of vision in her case the writer of the note would become a believer in the operation. I pointed out to Dr. Bigger that vision was so completely destroyed that a candle, held about three inches from the patient's face, could not be seen by her, the optic nerves and retinæ of both eyes being atrophied, and that it was by performing iridectomy on such cases that the operation had been brought into disrepute in these countries.

The following case of chronic glaucoma came recently under my observation:—A lady, aged 65, consulted me, in the autumn of 1862, affected with tolerably far advanced glaucoma of right eye, the left having been previously destroyed by the same disease. The field of vision of right eye was much contracted, all objects

near her appeared as if seen through smoke, and she could only read large type when held close to her face. The usual phenomena of chronic glaucoma—hardness of the eyeball, haziness of the refracting media, dilated pupil, &c., &c., were present. She stated that she had lost her left eye some years previously; and that about six months before consulting me she noticed that the sight of her right eye had also become affected, and that it was now growing rapidly worse. I informed her that she should lose no time in having iridectomy performed, as otherwise the disease was progressing so rapidly she would inevitably become blind before six months were over. She declined submitting to an operation at that time, and lost two or three months deliberating on the matter; eventually, at the eleventh hour, she went over to London, and was operated on by Mr. Bowman, who has kindly sent me the following notes of her case:—

"5, Clifford-street, February 23, 1863.

"My dear Sir,—I operated on Mrs. P., on the one eye which continued to have perception of light. The case was one of long standing chronic glaucoma, with partial floculent opacities in the lens, and the field of vision was very contracted, with hardly more than vision of bright objects in certain directions—altogether a most unfavourable and complicated case, and offering, as I explained to her, very little prospect from any operation. As the glaucoma was rather rapidly destroying the remaining functions of the retina, I performed iridectomy, which she bore perfectly well, and from which she derived the little benefit I expected, viz., *a restoration of the natural tension of the eye*, but no expansion of the field, and no positive increase in visual power. Whether, in such a case, the retina will retain the little activity it possesses, or gradually fail entirely, must be doubtful. Of course the cataract will, sooner or later, advance, and will have to be operated on, should it ultimately appear worth while; and this I explained to her before the iridectomy.

"What I do so much lament in similar cases is, that *iridectomy has been delayed* until structures as well as functions are hopelessly deteriorated, and until the operation, which *at an earlier period* would have proved a great and inestimable boon, has hardly any longer a chance of rescuing the little remaining sight from destruction.

"You may make any use you please of this letter.

"Yours truly,

(Signed) "William Bowman.

"Dr. Hildige."

Those students who have passed a winter at von Graefe's *clinique* at Berlin cannot but have witnessed, as I have done, numerous and brilliant results from iridectomy. The same may be observed at Professor Arlt's ophthalmic *clinique*, in Vienna; at Professor Donder's, in Utrecht; at Professor Sperino's, in Turin; at Dr. Desmarre's, in Paris; and last, though not least, at Moorfields Hospital, in London, to the medical officers of which institution—Messrs. Bowman, Critchett, and Dixon—the operation owes its introduction into Great Britain. "Humanity," says Professor Donders, of Utrecht, "demands that prejudice and ignorance should cease to oppose the introduction of iridectomy for the cure of glaucoma," and so, it appears to me, must every impartial examiner say also, who, for himself, has carefully studied the subject.

Art. XV.—*Cases of Pleuritic Effusion.* By Samuel Gordon, M.B., F.R.C.S.I., Physician to the Richmond, Whitworth, and Hardwicke Hospitals.

The following cases I believe to be possessed of some practical interest, chiefly as bearing, more or less, upon the subject of *paracentesis thoracis;* but also from various incidental occurrences:—

Case I.—*General Anasarca, Pleuritic Effusion, Thoracentesis; Hematemesis; Inflammation of the Epiglottis; Death from Overexertion.*

May 13, 1862.—I was requested to see a gentleman who had been for some time suffering from general dropsy. He was universally anasarcous, and to a great depth, the lower extremities being excessively swollen and œdematous, so much so as to render him quite powerless. He lay on his left side, and the right upper extremity alone had escaped extreme tension; the scrotum and penis were greatly infiltrated; his breathing was short and rapid; his lips blue; he could not speak even a short sentence without drawing his breath repeatedly. The heart's sounds and impulse were feeble, but there was no abnormal murmur. The jugular veins were permanently distended and pulsating; the pulse very small and frequent. The respiratory murmur was audible over the entire of both lungs; the liver was enlarged towards the epigastrium, and

hard. The urine was scanty, very high coloured, depositing copious brick-coloured sediment; bowels acting freely. His mouth was sore from mercury, and his breath had a strong mercurial fetor.

14th.—Weaker; breathing shorter; the anasarca rather increased in the upper extremities.

15th.—Slept badly from dyspnea, which increased rather suddenly in the middle of the night. He several times complained of choking and difficulty of swallowing, and became very restless, tossing about and throwing off the bed-clothes, and calling for air. A medical gentleman who sat up with him, attributing all these symptoms to weakness, supplied him largely with stimulants; he took, every 20 minutes, either brandy, or sal volatile, or compound spirit of lavender. I saw him very early on the following morning; he had not slept; his skin was cold; the anasarca had greatly increased; his breathing had become excessively laboured and difficult, so that he could not breathe in the recumbent position, and yet the anasarca was so great that he could not be placed erect in a sitting posture. He was completely unable to turn himself in bed, or even to give any assistance in moving himself. The kidneys had almost ceased to secrete any urine, and he was suffering from a constant intestinal tenesmus, without being able to pass any feculent matter. Even through the great depth of anasarcous swelling I was able to satisfy myself of the great difference between the physical signs existing in opposite sides of the chest. The left side was almost perfectly dull, and there was no respiratory murmur audible over any part of it. The heart was slightly displaced downwards and inwards; its impulse was scarcely perceptible. An enema with castor oil and tincture of jalap relieved the bowels and caused some urine to flow, which was loaded with lithates; but it was clear that no relief to the dyspnea was to be expected except from operation. During the day he became more distressed; his breathing shorter and more laboured; his lips becoming blue, and his pulse failing; his skin becoming more cold. At 3 o'clock Dr. Mayne saw him with me, and it was determined to afford him the chance of relief by thoracentesis. Accordingly, having made a small but deep incision in the left lateral region, I introduced the ordinary small-sized hydrocele trocar into the pleura, between the fifth and sixth ribs, and a stream of serous fluid escaped through it. The depth of anasarca was so great that I was obliged to make a very painful amount of pressure to retain the canula in the pleura, and at length its lip became buried in the wound. We then introduced

a canula $3\frac{1}{2}$ inches long, and this barely sufficed to reach the pleura without pressure; the quantity of fluid drawn off amounted to five pints. It was entirely serum, without any admixture of blood, pus, or flakes of lymph. The relief which he experienced was very decisive; it was first manifested by the excessively blue colour of his lips being replaced by a more healthy arterial hue, the frequency of his inspirations then became less, and his efforts to inspire less marked, the alæ nasi less dilated, and the heavings of his chest less powerful. He presently lay down and slept tranquilly for two hours. In the evening the apex of the heart had returned to its normal situation; the pulsation had left the veins of the neck, and their distension was greatly relieved. Through the incision made in the side the discharge of serum from the cellular tissue had been so great that all the bedding was more than saturated.

His sense of relief was immense; and his only complaint now was a sensation of intense heat or burning, which he referred to his stomach. Some hours after this, he began to throw up a quantity of very sour water; at first colourless, it was afterwards very green, and during the night became dark coloured. This affection of the stomach continued to increase in severity. I saw him about four o'clock next morning; the vomiting recurred about every 10 minutes; the quantity of fluid ejected each time was from two to four ounces, and sometimes about six ounces. It was obviously hematemesis, the colour of the blood being altered, by admixture with gastric juice, according to the time it lay in the stomach. Each act of vomiting was preceded by a sense of great heat in the epigastrium, and pain; but there was little or no sense of nausea or sickness. There was extraordinarily little sinking of the vital powers, considering the amount of blood or fluid thrown off from the stomach, and the frequency with which the attacks of vomiting recurred. The hematemesis continued with great severity throughout this day (16th), the quantity thrown up could not have been less than four pints. We looked upon it as caused by the gastric veins being overloaded, partly by the backward pressure from a vena portæ obstructed by hepatic disease, and partly by the effects of a gastritis induced by the excessive administration of stimulants on the night of the 14th.

We contented ourselves with the free use of ice internally—occasionally a little iced champagne or moselle, and very free counter-irritation, and having the bowels relieved by active enemata

17th.—The vomiting somewhat less frequent, but still of the same character. His pulse more full and less frequent; urine secreted in greater abundance, still depositing lithates most copiously. He takes ice and cold water, and cold chicken tea, and a little moselle occasionally. During the day the vomiting gradually subsided, and towards evening ceased altogether. During the night he slept pretty well; but on the morning of the 18th we were surprised to find him very hot and more feverish, restless and tossing about, and complaining of inability to swallow, and a sense of great tightness about the throat; on the least exertion there was great dyspnea. Besides the sense of constriction, he complained of a constant accumulation in his throat, which induced frequent cough; and in this coughing he frequently lost his breath, and felt and appeared in danger of suffocating; he could not swallow without great pain. He was a man of immense moral courage; and when Dr. Mayne and I pressed him to let us see him drink, he said, "I will swallow anything you like, but it is perfect agony." We filled out a dose of a diuretic mixture, which he had been taking, and, on handing the glass to him, he at once reminded me of what I had once seen a man in hydrophobia do when similarly urged—he took the glass in his hand, but turned away his head to prevent himself from seeing it, and, with evidently an immense effort which produced a rigor at the moment, he swallowed the contents; and, throwing the glass from him, said, "Surely you will not ask me to do that again," and was immediately seized with a most violent convulsive cough.

We had to wait a considerable time before we could venture to enter upon any further local examination. On looking into the throat we could not see anything abnormal; but it caused him very considerable pain when we pressed down the tongue in making the investigation. Still he bore the pain, and allowed us to make a very full examination. I then introduced my finger, and felt the epiglottis considerably enlarged, and unyielding; the examination induced another paroxysm of coughing. There was some soreness and fulness externally above the thyroid cartilage. There was no weakness nor any alteration of the voice whatsoever; but when he did swallow fluids they were partly regurgitated; and even on coughing there was a discharge of mucus through the nares.

His great source of distress was the constant accumulation in the throat of viscid tenacious mucus, which he found it impossible to get rid of; and the pain he suffered when he occasionally tried

to swallow his saliva, which was secreted in undue quantity, was excruciating.

We looked on the case now as a distinct inflammation of the epiglottis, so graphically described by the late Sir Henry Marsh (*Vide Dublin Journal of Medical Science*, Vol. XIII., p. 1), and hoped that the œdema of the glottis would not supervene. We applied a few leeches externally, close to the os hyoides, and then covered the throat with a very light and very hot emollient poultice, while we made him inhale the steam of hot water, impregnated with some aromatic herbs, having first, in the usual way, applied a strong solution of caustic to the epiglottis. This produced immense pain, and great additional suffering at the time, but afterwards the secretion of mucus was greatly diminished, and he experienced proportional relief. We did not venture on the exhibition of mercury, for his mouth had not yet recovered from his late salivation. The only thing we could induce him to take all day was a little iced claret, and even that seemed to produce exquisite suffering; he was very drowsy, but he frequently started up as if suffocating, and this appeared to be caused by the flow of saliva into the larynx through the unguarded rima. Position did much to relieve him from this annoyance; he was placed sitting almost erect in the bed, supported by a very high bed-rest, and the saliva flowed from his mouth. In this way, towards evening, he got two hours uninterrupted sleep, and awoke greatly refreshed.

19th.—He was improved; he had had some quiet sleep, but still in the semi-erect posture; he could lie down without the least dyspnea, and he could swallow a little jelly with less pain. The same soothing plan of treatment was continued, for there was very little alteration in the condition of the epiglottis; but on the

20th—It was decidedly less turgid and more flexible, and the pain on pressure at the root of the tongue no longer existed. He now took full doses of iodide of potassium in bark, and in a few days he had perfectly recovered from this alarming affection. His progress towards recovery from the dropsical affection was also very satisfactory. The extremities had returned to almost their natural size, and there was no evidence of pleural or abdominal effusion, but the heart's action was very feeble, and occasionally intermitting, without, however, any evidence of valvular disease; the liver, also, was somewhat enlarged towards the epigastrium; there was no evidence, microscopically or otherwise, of any renal affection.

Any undue exertion brought on urgent dyspnea, and palpitation, and intermitting pulse; still he was progressing satisfactorily, when on the

27th—He insisted on being allowed to get up; he remained up all day, and taxed his strength to an almost incredible amount. When he got back to bed he could not sleep from fatigue; passed a very bad night, and next morning I found him in a hopeless condition from exhaustion and debility. He took a large quantity of stimulants in the course of the day (28th), but he died at 10 o'clock that night. The body rapidly decomposed; no *post mortem* examination was allowed.

Whether we look upon the effusion in the above case to have been a hydrothorax, or the result of an inflammation of the serous membrane, the rapidity with which it supervened, and the urgent dyspnea which it caused, rendered the operation imperative. It is to be remembered in such cases that the dyspnea is produced not merely by the mechanical pressure on the lung; if it were so it might be advanced that the right lung would suffice to carry on the mere act of respiration, but when the diaphragm cannot yield on account of an already over-distended abdomen, the heart is compressed in a manner almost incredible to those who have not seen it under such circumstances. A very remarkable instance of this kind, which I brought under the notice of Mr. Adams, was presented by him to the Pathological Society, many years ago (*Vide Dublin Medical Journal*, XIX., p. 322), and the amount of compression which it suffered may be judged of by the fact that the heart remains to this day with the cavities folded up, nearly in the same condition as when removed from the body and exhibited by Mr. Adams. The drawing of the recent appearances, and the preparation, are still preserved in the Richmond Hospital Museum. I believe that cases like the present, where the operation is almost imperative, are those which are most likely to prove completely successful, not merely in obtaining complete relief to the patient's dyspnea, and comfort and respite from his other sufferings, such as cough, forced position, &c., &c., but, under such circumstances, the fluid is not likely to re-accumulate. From many examples which I could adduce, I will only give the following, with Dr. Stokes' permission:—An army surgeon, who has since died of cholera in India, rode several miles from the Curragh Camp one night, in very heavy rain, to see an eminent personage who was suddenly taken ill. After considerable delay, he again rode home, and

remained for some time in his wet clothes. On the following day he was seized with acute pain in his side; and from that moment dyspnea set in, and hourly increased. He came up to Dublin, and put himself under the care of Dr. Stokes, who, finding all medicines and medical appliances useless to control or reduce the effusion which had taken place, requested of Mr. Adams to see him. No time was lost in drawing off the fluid, which was altogether serum, and amounted to five quarts. The lung almost immediately expanded to its full dimensions, and the patient recovered completely and rapidly.

We are warranted, then, in expecting that, in cases of sudden extensive pleural effusion, paracentesis will not only relieve dyspnea, but, if it be a primary lesion, that the effusion will most probably not recur.

The diagnosis as to the cause of the hematemesis was given, I conceive, on sufficiently clear grounds. In connexion with hepatic disease hematemesis occurs only when the branches of the vena portæ are constricted by a more or less permanent pressure on them, as in cirrhosis of the liver. Professor Law made this statement long ago,[a] and experience has confirmed its accuracy. Another very characteristic, although negative, sign of the existence of adhesive inflammation of the liver was to be found in the fact of its want of enlargement. With such impediment to the emptying of the vena cava as existed in this case, it is impossible to conceive but that the liver, if not so affected, would have became enlarged, as we know it to be capable of doing under ordinary circumstances; but neither did the right lobe become enlarged when venous circulation was so much obstructed, nor did it become reduced in size when the obstruction was removed; the undue quantity of stimulants no doubt favoured the occurrence of the hematemesis at the moment.

The inflammation of the epiglottis we considered to have been produced by the local action of the gastric secretion upon it. Even although occasionally diluted by the large quantity of blood which was thrown up with it, the quantity of acid secretion which must have passed over the laryngeal surface of the epiglottis, and its almost continuous passage over it for many successive hours, were more than sufficient to produce an inflammation even so acute as our patient laboured under. He had not been subjected to any exposure or other undue influence which could have caused it; but whatever may have been the cause, and that is comparatively

[a] See Dublin Medical Transactions, N. S., Vol. i., p. 3.

immaterial, it is worthy of observation, the very clear diagnostic signs which existed, pointing out the affection of the epiglottis as totally distinct from that other more formidable, although, perhaps, except in extreme cases, less painful affection—œdema of the glottis.

This patient's death was caused, I think, partly by a weakened condition of the muscular fibre of the heart, as evidenced by the changes which took place in the body so rapidly after death, and partly by syncope, induced by extreme fatigue, from the patient so suddenly leaving the recumbent position to which he had been long confined, and making such undue exertion for so many successive hours. This I believe to be a more common cause of death than is generally imagined. I could point to more than one valuable life which, convalescent from typhus fever, has been lost by too sudden and protracted exertion; and to many others, the subjects of fevers and other acute diseases, in which, although the consequences were not fatal, relapses and distressing sequelæ were induced.

Case II.—*Interlobular Empyema; Paracentesis; Insertion of Drainage Tube; Recovery.*

James Halpin, aged 36, a brewer's drayman, was admitted into the Whitworth Hospital, on the 8th of May, 1862, complaining of cough, difficulty of breathing, and weakness and emaciation, which were rapidly increasing.

He was bent forward, and could not by any means stand or walk erect. He was suffering from well-defined hectic, of which he had a daily paroxysm; he had also profuse purulent expectoration. I learned that he had been in the adjacent Hardwicke Hospital, from the 17th of December, 1861, until the 17th of February ultimo, under the care of my colleague, Professor M'Dowel, who at once recognized him as having at that time laboured under a very severe pleuro-pneumonia of the left lung.

His pulse was now 140 in the minute, and very feeble; his breathing short and rapid; he was very weak, and had very little appetite. His cough was very violent, paroxysmal, bringing up large quantities of purulent matter, which appeared to *flow* from his mouth; and this cough was frequently accompanied by vomiting, sometimes of half-digested food, sometimes of green watery fluid.

The physical examination of the chest did not confirm the idea of this being an ordinary case of pulmonary phthisis. The respiratory murmur throughout the right lung was puerile, and the sound,

on percussion, loud. There was large loose crepitation in the upper part of the left lung, with distinct, though feeble, respiratory murmur over all the posterior part; but there was complete absence of respiration, and perfect dulness, on percussion, over a large space in front, on the left side. This space included all the lower sternal region, and passed across to the cardiac region. The heart was displaced downwards and a little backwards.

Except for the displacement of the heart *downwards* it resembled very much an extensive pericardial effusion. However, the very profuse purulent expectoration (amounting to upwards of three pints in the 24 hours) being evidently vicarious—inasmuch as there was no evidence of a pulmonary cavity from which it could be secreted—determined to my mind that the pus was originally secreted in the cavity of the pleura.

Dr. Hutton, who also saw the case with me, and Professor M'Dowel gave it as their opinion "that it was no ordinary case of empyema."

The symptoms became very urgent—that is, when he had been a week in hospital he was unable to lie down in bed, and the cough was so constant as to deprive him of sleep. The amount of purulent expectoration was increasing, and the debility was extreme. Under these circumstances I determined to make an exploratory puncture into the space above defined, and was considering where exactly to make it, when, on the 20th, a soft tender spot had formed over the cartilages of the last ribs. Into this I made a rather deep incision with a very small scalpel, and gave exit to about four ounces of very fetid matter. On the following day I introduced a director, and, finding it stopped, I passed a medium-sized trocar and canula through the obstruction, and drew off upwards of a quart of most fetid matter. This perforation of the pleura, between the cartilages of the ninth and tenth ribs, was followed by immense relief to his breathing; and the cough and expectoration ceased almost instantaneously, and the crepitating rattle at the apex of the left lung soon became inaudible.

I would briefly refer to this practical point, as elucidating what I believe was originally adduced by Andral,[a] and afterwards very fully explained by Dr. Corrigan[b]—the formation of an external abscess in empyema—the communication, if any, existing between them being so small as practically to be of no remedial service. It

[a] See Andral's Pathological Anatomy, Spillan's Trans., p. 571.

[b] Dublin Quarterly Journal, Vol. xviii., p. 144.

is of the utmost importance in such cases to be satisfied, "not merely," as Andral expresses it, "that the abscess formed between the ribs and skin has been opened, but that a real operation for empyema has been performed;" and the extent to which the skin becomes undermined, and the amount of purulent matter which lodges in the external abscess in these cases are often fertile sources of deception I had no doubt of this case being a partial empyema, and the local tenderness and swelling further reduced it to an empyema of necessity. On one or two occasions, when the patient assumed a particular posture, there was a certain amount of pulsation communicated to this swelling; but this was evidently owing to its proximity to the heart or pericardium. Had it been continuous, however, it would have rightly given to the tumefaction the further title of pulsating empyema of necessity.

He continued to progress favourably for several days; but on the 1st of June, the wound having closed some days previously, he was again attacked with cough, fetid expectoration, and dyspnea. I reopened not merely the cutaneous wound, but also divided freely the internal band, and, as before, gave exit to an immense quantity of fetid purulent matter. I took the opportunity to sound the depth of the abscess by means of a gum-elastic catheter. I found it to pass freely, and in the direction of the interlobular fissure. I also satisfied myself that the wound was at the lowest part of the chest, almost resting on the diaphragm. When the intra-thoracic abscess was again evacuated the pulmonary crepitation again ceased, as also the cough and fetid expectoration; and during the progress of the case these symptoms recurred on several occasions, but always subsequent to the closure of the wound, and again disappeared on its being re-established.

The due appreciation of these phenomena in connexion with empyema is a matter of the greatest importance to the practical physician. They have been repeatedly mistaken for positive evidences of phthisis; thus not merely inducing a wrong diagnosis, but sanctioning a neglect of remedies calculated to produce permanent and entire relief. Their real significance has been most fully elucidated by the late Professor Greene[a] in his medical reports from these hospitals, and he has left nothing to be added to his exposition of their value and import. I have always considered that exposition to be one of those great addenda to medical science which mark, as it were, a period in our acquisition of standard

[a] *Vide* Dublin Medical Journal, Vol. xvii., p. 268.

knowledge of a disease, and which are therefore well known to all true physicians. I would, therefore, have contented myself with a mere allusion to the existence, or otherwise, of these phenomena, did I not find the merit of this diagnostic discovery lately attributed to M. Trousseau.[a] It is to be presumed that M. Trousseau was ignorant of Professor Greene's researches, which were published in 1840, whereas the first case from which M. Trousseau drew the same deductions did not occur until 1843.

I now determined to keep the wound open continually by means of a drainage tube, the free extremity of which lay in a small vessel fitted to the shape of his chest, which he wore continually, and so escaped the necessity of being confined to bed.

For some days the average quantity of matter drawn off in this way was about four ounces. This gradually reduced; and when he left hospital, on the 6th of August, the quantity drawn off was not more than two drachms in the 24 hours. Still the tube could not be removed, for, on different occasions, when, from want of cleanliness, it became closed, he was always attacked with cough, loss of appetite, and other symptoms which told him that the purulent matter was reaccumulating; and these symptoms were invariably removed on the tube being readjusted. It was finally removed on the 6th of November, and he went to the country, and has remained perfectly well. The rapid increase in his weight was most remarkable.

The treatment by means of the drainage tube was eminently successful in this case. Its advantages seem to be—1st, that it prevents the accumulation of any large amount of fluid in the pleura; 2nd, that it does so, when properly introduced, by removing the fluid from the most depending part of the cavity; and, 3rd, that it removes the fluid by a slow but continuous process. It is obvious, therefore, that the tube may require a twofold or a single insertion into the cavity of the pleura. In ordinary cases, where the fluid presents at the upper part of the thorax, or where the upper part of the thorax is selected for the operation of paracentesis, then the drainage tube, being inserted at this point, ought to have its point of exit at the most inferior part; and this object can be well attained by the means pointed out in Professor Banks' communication in the last volume of this Journal. I may here take the opportunity of stating that, within the last few days, I have seen the subject of that very interesting paper, and he continues in the enjoyment

[a] *Vide* Gazette des Hôpitaux, Feb. 1., 1862.

of rude health. In other cases, like that of Halpin, an unusual variety of empyema may present at—or the operator may be able to select—the most inferior point of the chest, and then there will be no necessity for any second wound. In fact, for the success of the drainage treatment one essential point seems to be that the evacuation must take place from the lowest part of the chest; and I think it very probable that, even in those cases where an opening has been originally required into the upper part of the chest, when the counter-opening has been fully established the closure of the original wound may help to expedite the recovery.

I do not recollect to have ever before seen an empyema arising from an interlobular pleurisy which was distinctly recognisable during life, and conducted to a favourable termination. There was abundant proof that in Halpin's case the general cavity of the pleura was not affected, in the persistence of vesicular respiration, and in the absence of perfect dulness on percussion, at the postero-inferior portion of the lung; and the want of general dilatation or swelling of the side. The cessation of the purulent expectoration when the pleura was opened, the absence of evidence of pleuro-pneumonic fistula, and the information gained by *sounding* the interior of the chest, proved that the pus had not its source in a pulmonary abscess.

I need not dwell upon the exact anatomical position of this intra-thoracic abscess. Similarly situated collections of matter have been often described as abscesses in the lungs; but careful dissection shows them to be bounded on all sides by serous membrane; "the space which they occupy being," as Hodgkin concisely explains it, "shut up by previous old adhesions." There is, perhaps, no more interesting case of inter-lobular pleurisy on record than that described by Andral,[a] in which the disease proved fatal, unrecognized, and with all the rational symptoms of pulmonary phthisis.

I consider this case to be a valuable supplement to the somewhat similar one so admirably detailed by Dr. Thorpe in the 34th volume of this Journal.

Case III.—*Pleuritis, with Effusion; Tubercular Pleurisy, with Phthisis Pulmonalis.*

James Murphy, a tall emaciated man, 27 years of age, having been out of health for several months, was, about the middle of

[a] See Spillan's Transl. Andral's Clinique Medicale, p. 580.

September, seized with more severe symptoms of local disease in his chest, viz., rigors, dyspnea, cough, and fixed pain in his right side. He went into an hospital, and remained there until the end of November, when he was discharged, not feeling himself much improved. He remained at home until the 12th of December, when, finding his strength rapidly declining, he sought admission into the Whitworth Hospital. I examined him carefully on the following morning, and had no difficulty in concluding that he laboured under effusion into the right pleura: there was well-marked dulness over all the right side, without any pure vesicular murmur; and in some parts there was a total absence of any form of respiratory sound. The constitutional symptoms were of a very alarming nature; the emaciation was still progressing; his debility extreme; his pulse 120, very small, weak, and compressible; his tongue dry, and his restlessness and want of sleep most distressing. Under these circumstances the point for consideration seemed to be, whether it would be right to propose to the patient the operation of *paracentesis thoracis*. With this view we investigated chiefly the following two points:—1st, the nature and amount of the fluid effused; and, 2nd, whether the pleuritic effusion was an idiopathic disease or a complication and secondary affection.

On the first point we had the following amount of evidence:—Although percussion elicited a dull sound over all the right side of the chest, the dulness did not transgress the median line, nor was there any displacement of the neighbouring organs; the liver was not depressed, nor were the intercostal muscles bulged out or paralysed; the diaphragm acted freely, and the patient lay frequently, and for a considerable time, on his left side; and, on measurement, the right side was only half an inch larger than the left at the time of a full inspiration; the expectoration was very scanty and viscid, containing very little purulent matter, and there were now no chills or shiverings complained of; there was distinct frottement audible in front, over the cartilage of the fourth rib; and posteriorly and laterally bronchial breathing (not very intense) and bronchophony were audible over about half the side. We came to the conclusion, therefore, that the fluid effusion which existed was not purulent, but serous, and that it did not occupy more than half the right pleura. We now sought for information on the other point—how far the pleurisy, such as it was, could be looked on as a primary disease—and we found that the respiration through the left lung, particularly its upper portion, was continuously interrupted or

saccadé, and that there was occasionally a crepitating râle to be heard; also, that although percussion elicited a clear sound all over this side, yet that on the fullest inspiration the side only expanded one-eighth of an inch, and that the respiratory process was carried on chiefly by the diaphragm. Connecting these physical signs with those already enumerated as existing in the right side, we inferred that the respiratory distress was not to be attributed altogether or principally to the pleuritic effusion. For these reasons, therefore, the operation of paracentesis thoracis was not proposed. He was ordered a large quantity of wine and nutriment, the side to be covered with an emollient anodyne poultice, and iodide of potassium, ammonia, and bark to be administered internally. The constitution seemed to have lost all power of rallying, the debility rapidly increased, and, without any accession of illness, the patient died on the 15th.

Post mortem examination showed that the right pleura contained four pints of pale serum. The lung, reduced to about half its normal size, was covered with a dense, firm, organized, false membrane, nearly a quarter of an inch in density, and which in some places seemed to have attained to various degrees of organization. Intimately adherent to the serous covering of the lung, it became more easily detached more externally; and the outer layer, which was very rough and sponge-like in appearance, was traversed in all directions by vessels carrying red blood, and had also a quantity of soft lymph lying on it in many places. There were also to be seen throughout this false membrane, a number of small, opaque, round granular spots, which were evidently small scrofulous tubercles, developed in the false membrane. A section of the lung showed that, although it had evidently undergone great compression, a considerable quantity of blood still circulated through it; and there were still to be seen several distinct scrofulous tubercles scattered through its substance. The left lung did not collapse, from having assumed a more or less emphysematous condition. A small quantity of bloody serum was found in the cavity of the pleura, and the serous membrane was closely studded all over with miliary tubercles, hard, and of a grey colour, and about the size of small pin's head; while sections of the lung revealed various tubercular masses in its upper and middle portions. These tubercular masses, about the one-eighth of an inch in diameter, were evidently formed by a congeries of small tubercles coalescing; they were rather hard and gritty, and did not seem to have the least tendency to

softening. The heart was small, and was undergoing fatty degeneration; its right cavities were completely empty; the abdominal viscera were healthy, except that the peritoneal surface of the liver was universally opaque from the very free development of miliary tubercles all over it; on the peritoneal surface of the spleen they were also copiously developed.

The chief point of interest in the above case was the very practical question as to whether the operation of paracentesis thoracis for the relief of the urgent symptoms was advisable or not. I have already assigned the reasons why, in this particular case, I did not recommend it; but the question in the abstract, in similar cases, must be very much determined by the views adopted as to the order of succession or supervention of the two diseases, the tubercular deposition and the pleuritic inflammation.

This subject may be approached under two very different aspects: 1st. The propriety of thoracentesis in cases of pleural effusion in which we dread the supervention of phthisis; and, 2nd, its propriety in cases like the present, in which tubercular disease is already pronounced; or, in other words, adopting the division of Rilliet and Barthez, we are to consider the propriety of thoracentesis in pleurisy of the phthisical, and in tuberculization of the pleura.

From the fact of tubercle so often succeeding pleurisy in a scrofulous subject, Trousseau draws an argument for the early performance of thoracentesis in cases where the effusion is considerable; and in a communication on this subject, made to the Pathological Society, by Mr. Adams, in his usual clear and lucid manner (See *Trans. Dub. Path. Soc.*, Vol. II., p. 82), he favours the proposition of early operation, on the ground that we may thereby reasonably hope to prevent the development of tubercle in the opposite lung; and both these authors adduce the same proof of the pleurisy being the primary disease, and to which the phthisis succeeded, viz., that the lung of the originally affected side was afterwards found free from any tubercular development. Another reason which has been assigned for early operation in such cases is the fact, as observed in patients of this peculiar diathesis, that the solid effusion is to that amount, and of that nature, to retard considerably, if not prevent altogether, the process of absorption. This is, no doubt, the case in some instances; but in many cases of consumption, which commence as cases of pleurisy with effusion, the fluid effusion has been absorbed within a reasonable time, and a universal frottement has proved the lung to have fully expanded, and yet the phthisis has

rapidly progressed. It is not long since Dr. M'Dowel and I attended such a case—a young gentleman, about 19 years of age. The effusion set in with frightful rapidity, and caused proportional dyspnea and suffering; but on the 10th day the fluid began to diminish and gradually subsided. In a few months pulmonary phthisis was fully developed in the opposite lung, and rapidly proved fatal. I am therefore of opinion, with Trousseau and Louis, that these effusions are often but the evidence of the tuberculous diathesis; and that, therefore, while we ought to remove the fluid effusion, if it does not yield to remedial measures within a very reasonable time, we must not expect that we can thereby prevent the extension or development of pulmonary phthisis.

But when we are called to treat a pleuritic effusion in which we have reason to conclude that tuberculous disease is already established in the lungs, thoracentesis should not be performed unless the effusion be excessive. There are two reasons why the operation should not be successful in these cases:—First, the lung cannot expand, being bound down by the mixed fibrinous and tuberculous exudation which uniformly invests it, preventing indeed the further development of tubercle in the lung, but itself proving no less fatal. But, secondly, these heterologous deposits will, if the fluid effusion be removed, still continue to act as sources of irritation and still keep up a continued secretion. The complication of phthisis with pleuritic effusion would seem, therefore, to give a direct negative to the proposal of thoracentesis, while, in the scrofulous subject, even before the development of tubercle in the lungs, the operation cannot in general be looked on as a remedial measure.

At the present day I feel that the danger is rather that the operation will be performed in cases where it will prove injurious, than that it will be neglected in cases in which it is advisable. Circumstances sometimes warrant the performance of a desperate operation that life may be prolonged, even for a few hours; but, under ordinary circumstances, we should have a well-grounded hope of a recovery, more or less perfect, before we venture to bring into disrepute an operation which, fitly used, may save the lives of many, and when rashly adopted will surely add to the suffering which already exists. Paracentesis thoracis is not the very trivial matter which Trousseau would have his readers to believe, and unquestionably it does not admit of the universal application to all cases of pleuritic effusion with which he would invest it.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Clinical Memoirs on Diseases of Women. By Alfred H. M'Clintock, M.D., F.R.C.S., Late Master of the Dublin Lying-in Hospital, &c. Dublin: Fannin & Co. 1863. 8vo., pp. 435.

The Dublin Lying-in Hospital, for the establishment of which we are indebted to Dr. Bartholomew Mosse, was the first institution of the kind erected in the British dominions, and has been the means, in a great degree, of securing to the Dublin School of Midwifery a world-wide fame and reputation, not only for the excellence of the teaching it affords, and for the valuable precepts of practice it inculcates, but for the advances in obstetric science that its members have made. Not a little of this success is due to the rule of the hospital that limits the period for which the Mastership can be held to seven years, and requires that each Master shall have previously served for three years as Assistant-master. The present worthy occupant of the office of Master is the sixteenth in succession from Dr. Mosse, the founder of the institution; an illustrious chain, to enumerate whose services and contributions to obstetric science would be to recapitulate nearly all the important advances that have for many years been made in this department of medicine; and the author of the book before us, whose period of office has so recently expired, has, as the readers of this Journal well know, ably maintained the character acquired by the institution under his predecessors.

Some of the former Masters of the Hospital have, either themselves or by their assistants, given us reports of the Midwifery department; but Dr. M'Clintock, in the present volume—perhaps from having already published, in conjunction with Dr. Hardy, a report of this department during his assistantship under Dr.

Johnson—breaks new ground, and gives us the first volume the hospital has afforded on the diseases of women treated in the wards devoted to their reception; or, as he calls them, the "gynecological wards." The first volume, we say—but, at the same time, we are not so ungrateful as to forget the valuable papers and essays previously published from time to time on the same subjects, both by Dr. M'Clintock and other Masters and Assistant-masters, and which have, for the most part, appeared in our own pages.

The work before us is based on clinical observation, aims at clinical utility, and is illustrated by original clinical histories; and the primary object of its publication has been to embody some of the fruits of the author's eleven years experience in the gynecological wards of the Lying-in Hospital, while he has not, he says, been unmindful of the writings of other authors on this branch of medicine. It consists of sixteen "Memoirs," many of which have already appeared in this Journal, but have all been re-written, and had such additions made to them as extended experience and reflection may have demanded; and are all of a pre-eminently practical character. The first treats of "Puerperal pelvic Cellulitis;" the second of "Pelvic Inflammation and Abscess in the Non-puerperal State;" then we have memoirs on "Procedentia Uteri and the use of Pessaries;" "Inversion of the Uterus," acute and chronic. "Fibrous Tumours of the Uterus;" "Polypus of the Uterus;" "Tumours of the Vagina," and "Tumours of the Vulva" are next considered; then "Pelvic Hematocele" and "Pudendal and Uterine Hematoceles." A memoir on "Stone in the Bladder" follows, and then we have memoirs on "Mammary Inflammation and Abscess," on "Secondary Hemorrhage after Parturition," on "The Semeiological value of the Pulse in Childbed," on "Dropsy of the Ovum," and on "Cystic Disease of the Ovum." These memoirs are illustrated by 35 beautifully-executed wood-cuts, all of which, with the exception of one—copied from a plate by Crosse—are from original drawings by Mr. Connolly, of cases under the author's own care, and done with the fidelity and execution that distinguish that artist: and they are engraved by the skilful and practised hand of Mr. Oldham.

The memoir on pelvic cellulitis is founded on the observation of 70 cases; and, with a view to fully elucidate the course and history of the disease, 13 of the most interesting are given at length. The true anatomical seat of this disease is still involved in obscurity, as, from the disease so seldom proving fatal, opportunities for inves-

tigating it are rare. In the 70 cases under the author's care, two only terminated in death, and in each of these the immediate cause was dysentery, caused by the abscess opening into the colon. The disease manifests the same tendency to attack primiparæ that other puerperal affections do; and though rarely resulting from puerperal fever, was, in many of the cases, evidently the effect or the result of attacks of metritis, or metro-peritonitis, and was more frequent in some seasons than in others, and especially common when there was a tendency to puerperal fever. The first evidences of it generally present themselves when the patient gets up and begins to go about, though the disease may have been going on silently and insidiously for some time, showing the importance of the rule laid down by Dr. M'Clintock, to examine the iliac regions day by day, as regularly as to feel the pulse, in all cases of convalescence from uterine or peritoneal inflammation. As a general rule, when originating out of parturition, it does so within four or five weeks, and the age of the woman, the sex of the child, and whether she suckle it or not, do not seem to have any influence in its production.

When pelvic cellulitis occurs in a primary form, it generally commences with a rigor, succeeded by local pain, general febrile disturbance, and a tumour, which is one of the most remarkable features of the disease. The tumour forms sometimes with astonishing rapidity—so much so, that Dr. M'Clintock thinks its production can only be ascribed to serous infiltration—œdema, in fact, of the loose cellular tissue; as mere hyperemia of the affected part could not adequately account for it, and the short period within which it takes place almost excludes the possibility of its depending on changes in the solid tissues of any of the pelvic organs. In general, the tumour is discoverable by external examination; but in a few instances is not to be detected except by vaginal exploration, and without this its relations to the cervix and adjacent parts cannot be ascertained. In 27 of his cases the tumour was situated in the right iliac region, and in 34, in the left; whilst in three, both sides were successively engaged. In eight cases there was more or less supra-pubic tumour, accompanied, in most of them, with iliac tumour also.

When the disease occurs primarily, that is, without preceding hysteritis, or metro-peritonitis, it generally makes its onset with rigors and fever, but this is a rarer form of the affection than that which follows as an epi-phenomenon of these diseases, when it commonly begins in a very insidious latent manner; and in all

forms, but this latter especially, its duration may extend over some weeks or months, and it may even become so chronic in its character as to be liable to be mistaken for an ovarian tumour. Of 70 cases, 37 ended in suppuration, with discharge of pus; 24 of these burst, or were opened externally, viz., 20 in the iliac region, 2 above the pubes, 1 in the inguinal region, and 1 beside the anus. There were 6 in which the discharge occurred per vaginam, 5 by the anus, and 2 burst into the bladder; and Dr. M'Clintock is, notwithstanding the statements of Becquerel and other writers, very decidedly of opinion, that the most favourable way for the escape of the matter is externally, in the iliac or supra-pubic regions.

In the treatment of the acute stages, Dr. M'Clintock chiefly relies on moderate leeching, poulticing, and fomentations; he does not think the benefit of internal leeching, as recommended by some authors, compensates for the inconvenience attendant on it; and although he recommends the administration of mercury, he would not push it to ptyalism. In the chronic stages he finds small doses of the bi-chloride of mercury serviceable; and in some cases the local use of camphorated mercurial ointment, strong tincture of iodine, and blisters; but these latter he regards as of doubtful utility, an opinion in which, however, we cannot fully concur, for where they do not produce strangury, we have found them to be very beneficial. When suppuration has taken place, if the abscess point externally, an artificial opening is desirable when the matter is near the surface; but it is not always necessary to wait till the skin becomes adherent to the tumour, though it is best to do so generally; and when the abscess tends towards the vagina, and is prominent, distinctly fluctuating and causing distress, the bistoury may be used; but, as a general rule, Dr. M'Clintock thinks it better to let it burst of itself. The most important point in the treatment is, however, rest—physiological rest, as it has recently been called—rest, not only from the exercise of the functions of the parts, but also from all movements, so far as possible, of the contiguous parts; the essence of *time* and tincture of *patience*, as we have long been in the habit of explaining to our patients, are all important in these cases; and on this point Dr. M'Clintock speaks, in the following passage, with all the authority of matured experience:—

"The first thing is to impress on the patient and her friends that recovery can only take place very slowly; that she, therefore, must have patience, and be willing to observe the strict confinement to the horizontal

position, which is the most important part of her management, and without which all treatment will prove nugatory. These cases almost always issue in the recovery of the patient, but they extend over a long period—from three to four months being their average duration. Until resolution has taken place, or, at all events, until the tumour has become chronic, in the fullest sense of the word, the patient should observe a recumbent posture. I am anxious to urge this point, again and again, on the attention of the practitioner, for I do not think its importance is sufficiently dwelt upon by writers; and it has been my lot to witness sad, nay, even fatal, consequences from inattention to it."

In the memoir on "Pelvic inflammation and abscess in the non-puerperal state," 12 cases are recorded, of which 6 were primary or idiopathic; and 6 secondary—three of them to a fibrous tumour of the uterus, 2 to uterine polypus, and 1 to abdominal inflammation. All the idiopathic cases, except 1, recovered—3 of them having suppurated. Of the secondary cases three (of which 2 were fatal) occurred in connexion with fibroid tumours of the uterus; 2, also fatal, with uterine polypi, which had had a ligature applied to them; and 1 other fatal case ensued on an attack of fever of some kind; all of them were insidious and dangerous in their commencement; and of the 7 fatal cases 3 terminated in consequence of an abscess opening into the peritoneum, a termination that Dr. M'Clintock has never seen in the puerperal form of the disease.

The third memoir is on "Procidentia uteri, and of the use of pessaries." One of the cases recorded is so remarkable that we give it in full:—

"Case 1.—*Procidentia uteri in seventh month of pregnancy.* A woman, aged 35, was admitted into the gynecological department of the Lying-in Hospital, 18th October, 1855. She applied for admission on account of a complete procidentia of the womb, with considerable excoriations of the os. On examining the tumour I discovered that the body of the organ was much enlarged; the cervix was full and expanded, and within it was felt a hard substance having much the feel of a fetal head. The possibility of her being with child now suggested itself to my mind, and prompted further investigation, the result of which was the admission that she was more than six months gone with child, (her second). The head and shoulders of the child were literally external to the pelvis. The uterus was gently replaced, and she was confined to bed. Four days afterwards labour came on, and she was delivered in six hours of a living girl, which weighed four pounds, 5 ounces, avoirdupois, and measured

seventeen and a-half inches in length. She recovered very well, and was kept in the horizontal position for some weeks, when she went home apparently cured of the prolapse."

Dr. M'Clintock warmly recommends the use of pessaries in suitable cases, considering the objections that have been urged against them as applying rather to their abuse than their use, and has seen cases where the displacement was permanently cured by their judicious use, the size of the instrument being from time to time reduced till its diameter about equalled the normal size of the vagina, and it could, at length, be safely dispensed with.

For the different forms of displacement, especially as occurred in hospital and dispensary practice, Dr. M'Clintock generally used the globe and disk boxwood pessaries, which he thinks, for the ordinary run of cases, will be found at least equal to any others, and to be preferred on account of durability and cheapness; but he gives two valuable cautions as to their use, viz.: that in the globe pessaries the string should not be attached to the operculum that closes the opening, through which the instrument was hollowed out by the turner, lest this should become loose, and get detached; and that in the disk the central opening should not be more than three-eighths of an inch in diameter, lest the cervix should get incarcerated in it. For the removal of the globe pessary, when the string is broken, he recommends and figures a simple instrument, being nothing more than a strong cork-screw, which he passes into one of the holes of the pessary; and he has found the same instrument of great service in drawing down polypi and other tumours of the uterus.

The Indian rubber disk pessary Dr. M'Clintock has found very satisfactory; it is, he says, light, soft, easy of introduction and removal, but not very durable. Air pessaries, with a tube for inflation, as well as those with stems, he has not found satisfactory, from the irritation they cause at the vulva; and the sponge so highly recommended by some writers he thinks objectionable, on account of the care and trouble necessary for keeping it clean. The great advantage of this form is the ease with which it can be removed and introduced by the patient herself—no small recommendation to a young married woman; but all the advantages it possesses in this respect, are, in our opinion, to be obtained, though in another way, by the use of Hodges' lever pessary, which is not mentioned by the author, for it may be worn constantly, even by young married

women living with their husbands, and without inconvenience. We have used this instrument, to the exclusion of all others, for a considerable period, and found it most satisfactory, and when properly chosen and placed it affords great comfort, not only correcting prolapse and procidentia of the uterus, but also retroversions and the various forms of prolapse of the vagina.

The memoir on "Inversion of the uterus" is one of great importance and value; it is chiefly occupied with chronic inversion; and three cases are detailed, in each of which the uterus was successfully removed—in the first by ligature, by Dr. Johnson, when Dr. M'Clintock was assistant in the hospital, and in the others by the author himself, with the ligature and écraseur. The ligature was applied for 48 hours in one of these, and for 72 in the other, before using the écraseur, with a view not only to the avoiding of all risk of hemorrhage, but to the securing of adhesion of the peritoneum, and preventing the laying open of its cavity.

Detailed accounts of these cases have already appeared in our pages, so that it is unnecessary to make an analysis of them on the present occasion; we may, however, add a fact in respect of acute inversion illustrative of Dr. M'Clintock's statement that when the misplacement is rectified the capability of conception is restored, and showing the further fact that there is not necessarily a liability to its recurrence in subsequent labours. The late Professor Montgomery published, a short time before his death, an account of a case of acute inversion to which he had been called, and where he succeeded in reducing the tumour; this lady has since been under our care in two labours, and, has not only conceived, but gone to the full period of pregnancy and been delivered, and made good recoveries, after easy and perfectly natural labours.

The fifth and sixth memoirs are devoted to "Fibrous tumours and polypi of the uterus." If, where all is so excellent, we might single out any part for special commendation it would be these chapters, for they constitute most valuable contributions to medical literature. In that on fibrous tumours the whole history of these growths is traced—their frequency of occurrence, varieties, size, and number; the transformations they undergo—such as calcareous degeneration, softening and elimination; and cancerous degeneration, the occurrence of which the author doubts, believing that the cases in which this has been thought to have taken place were instances rather where the tumour ulcerated, broke down, and sloughed, coming away in a highly putrid semi-dissolved state, and

the patient exhibiting a sallow wasted aspect, with a degree of irritative fever very like cancerous cachexia. The occasional detachment and transplantation of these tumours is also fully explained.

The symptoms are next detailed, and in two classes—first, the direct, as pain, menstrual disorder, hemorrhage, and watery and mucous discharges from the vagina, and then those resulting chiefly from mechanical pressure—such as cramps, dysuria, difficult defecation, prolapsus, piles, œdema of the leg, &c. Before discussing the treatment of fibrous tumours their natural history, or the course they take when not directly interfered with, is considered. Though no case of it has come under his own observation, Dr. M'Clintock admits, on the authority of cases described by Sir Chas. M. Clarke and Dr. Rigby, the possibility of these tumours being removed by a process of atrophy or absorption; separation and complete detachment of the tumours from the uterus, as may happen to the pediculated sub-peritoneal and sub-mucous forms, and their calcareous transformation occasionally take place; and also softening, disintegration, and discharge by the vagina in detached fragments and in a semi-fluid state. In one case the tumour melted down and formed an abscess which was discharged by the rectum. Fibrous tumours are also sometimes expelled during parturition; and these, with arrested growth, and slow passive growth unattended with symptoms, may be called the favourable terminations of the disease. On the other hand, they may destroy life by peritonitis, exhaustion, or hemorrhage.

Many practitioners regard fibroid tumours as a disease which does not admit of cure, and are content with merely palliative treatment; Dr. M'Clintock, however, regards their cure as quite within the range of possibility, and thinks it should always be aimed at when the circumstances permit. The iodine treatment, so highly spoken of by Ashwell, he has not much confidence in; he has found the bromide of potassium more useful, and speaks favourably of the waters of Kreuznach, whose chief deobstruent is bromine. The chloride of calcium of the Dublin Pharmacopia he also speaks highly of, and gives a case in which, after the use of half-drachm doses, three times a day for two years, of the *liquor calcii chloridi*, in combination with the tincture of the muriate of iron, the tumour disappeared. Leeching, and the application of strong mercurial ointment to the hypogastrium or to the os uteri, may also be used with advantage. For the treatment of the hemorrhage, Dr. M'Clintock enumerates many stypties, but says he gives the foremost

place to gallic acid, alum, tincture of Indian hemp, and iron, and states very truly that one hemostatic will not answer equally well in all cases, and that no reason can always be assigned for this variability of effect. In our own hands the tincture of Indian hemp has been very successful, and we always give it the first trial as being less likely than most other styptics to interfere with digestion. The sesquipernitrate of iron we have also found very useful; but there is no styptic we find more worthy of reliance than turpentine, though, from its disagreeableness it is only when others fail that we have recourse to it. Dr. M'Clintock reiterates the favourable opinion he expressed in our own pages some years ago as to the power of mercury as a hemostatic, and alludes to the case published by Dr. Tanner, in the 3rd volume of the *Transactions of the London Obstetrical Society*, and fully noticed in our review of that volume, where very obstinate hemorrhage was, on several occasions, controlled by its use. The case is important as showing that the good effects of the mercury were obtained as soon from the bi-chloride of mercury, in doses of the sixteenth of a grain, as from calomel given to the extent of producing salivation.

As to the surgical treatment, this consists—1st, in pushing the tumour up out of the pelvis when it is inducing injurious pressure on the organs in that cavity; 2nd, in attempts to prevent the occurrence of the repeated hemorrhages, for which Mr. Baker Brown, M. Nélaton, and Dr. M'Clintock have all, independently of each other, made the observation that a free incision of the os and cervix uteri is generally very efficacious. Several cases are given in which this plan of treatment was adopted. Atlee's statement, that the hemorrhage may be "invariably arrested instantaneously" by making a free incision into the most prominent part of the tumour, is also considered; but Dr. M'Clintock does not seem to have tried this plan or think it so certain of success as Dr. Atlee calculates on. The curative treatment is next alluded to, but none of the proposed plans seem to have obtained the full approbation of the author.

We pass now to the memoir on "Polypus of the uterus," which is equally complete and excellent with that which we have just considered, but our space will not allow us to analyze it fully. For the removal of these growths, Dr. M'Clintock prefers torsion for small polypi, or rather for cases where the pedicle is small—not thicker than one's little finger—and he gives drawings of improved instruments for this operation. For excision or ablation, he

recommends the écraseur, where it can be used, because of the greater security it affords against hemorrhage ; and of the use of the ligature—so highly lauded by Dr. Lee, in the paper reviewed in our last number—he says he believes its use alone, as a means of extirpating uterine polypi, is destined ere long to become nearly obsolete; though in the case of a very large polypus, he would, as in a case that is detailed, apply a ligature for a period, say 48 hours, and then excise the tumour.

The seventh memoir, on "Tumours of the vagina," and the eighth, on "Tumours of the vulva," are, we believe, the most complete essays on these subjects extant. We have, however, so recently presented our readers with papers from Dr. M'Clintock's pen on the same subject that we pass them over on the present occasion, and hasten to the ninth memoir, on "Pelvic hematocele."

The lesion, to which Dr. M'Clintock applies the term *pelvic hematocele*, consists in an extravasation of blood into the pelvic cavity, either within the peritoneum, or external to this sac. The names *peri-uterine* and *retro-uterine* hematocele have been given to it; but, as none of the blood may lie behind the uterus, and is very rarely all round it, and, as the blood has no more particular relation to the uterus than to any other pelvic organ, Dr. M'Clintock thinks it better to use the term pelvic hematocele, which implies, simply, an effusion of blood within the pelvis, and to confine the term uterine hematocele to extravasation of blood into the substance of the uterus; and it is to be remembered that, though the effusion is spoken of as if it constituted the disease; it is in reality only a symptom or effect of some pre-existing pathological condition.

The disease is not of extreme rarity, though only recently fully described. Ruysch recorded a *post mortem* examination in 1691, of a woman who died whilst menstruating, where blood was found in the peritoneal cavity; but we stand chiefly indebted for the first full accounts of it to M.M. Recamier, Velpeau, and Bernutz, and within the last 12 years it has attracted much attention, both at home and in France. The hemorrhage may take place within the peritoneum, or external to it, and the intra-peritoneal may be *encysted*, or circumscribed by the adhesions of the peritoneum, or *non-encysted*, the extravasation taking place rapidly, causing a large swelling, and endangering life by the shock or amount of effusion. The *extra-peritoneal*, or *sub-peritoneal* form is less dangerous than the other. Some pathologists, indeed, doubt the occurrence of this latter variety; the majority, however, recognize the two forms, and

some even affect to be able to diagnose them during life. Dr. M'Clintock enumerates the sources of the hemorrhage and the symptoms, as follows:—

"The *sources* of the hemorrhage would seem to be various; in the first place, the blood may be discharged from the Fallopian tube, being either an exhalation from its mucous membrane (Trousseau), or coming through this duct from the interior of the womb. In the latter case it is not necessary that occlusion of the os uteri should exist. Retention of the menses has also led to bursting of the oviduct, and consequent formation of pelvic hematocele. *Secondly*, the blood may come from the ovary itself, at the time of spontaneous ovulation, either in consequence of disease of the organ, or of unusual hyperemia. Dr. Tilt and Dr. Genouville argue strongly in favour of this source of the hemorrhage, and the latter physician founds upon it a distinction, very useful, I dare say, in a practical point of view, viz., *catamenial* and *accidental* hematoceles, the former being the more frequent, and more liable to recurrence in the same individual. A modification of this theory has been put forward by M. Gallard, who supposes that very many cases of pelvic hematoceles are due to the pressure of an ovum which had missed the oviduct and dropped into the peritoneum; so that, in fact, they were examples, strictly speaking, of extra uterine gestation. *Thirdly*, Dr. Puech has drawn attention to laceration or rupture of the utero-ovarian vascular plexus, as a cause of the extravasations of blood. *Fourthly*, the hematocele may be produced by a simple sanguineous exhalation from the peritoneum, thus being in some degree analogous to the disease known by the name of hemorrhagic pleurisy. M. Tardieu has described a few cases which would seem to be of this kind.

"*Lastly*, the intra-peritoneal effusion may be but one of the effects of a general hyper-secretion of blood from the genital organs; a species of hematocele to which M. Bernutz applies the epithet 'metrorrhagic,' and which is accompanied, at the time of its formation, by an excessive menstrual discharge from the vagina. It is important to observe, that pelvic hematocele may be produced under the most opposite conditions, viz., in the complete absence of menstrual discharge, and where this is unnaturally profuse. In the majority of cases that have been put on record, the hemorrhage has came from the ovarian vessels, at the menstrual epoch. The quantity of blood which has been effused in some of the instances was very great. Of this I shall have occasion to mention a striking example." . . . . . .

"The leading *symptoms* which present themselves after the occurrence of this accident are, hypogastric pain and tenderness with febrile action, succeeding to menstrual derangement, sometimes amenorrhea, but more

frequently menorrhagia preceded, perhaps, by a temporary suppression of the menstrual discharge. A tumour suddenly develops itself in the hypogastric or iliac region, or behind and partly below the neck of the uterus. At first this tumour is soft and fluctuating, but, at a later period, has more firmness. Tenesmus and irritability of the bladder are frequently present also. The character and intensity of the symptoms will mainly depend upon the mode of inception which the disease exhibits. Studied from this point of view, pelvic hematocele may be said to have three forms, or, to speak more correctly, three *modes of invasion.*

"In the *first*, and most severe form, the onset of the symptoms is sudden and overwhelming. The patient is abruptly seized with abdominal pain and rigor, succeeded by utter prostration of strength, cold extremities, pallor of the countenance, which is anxious and pinched; the pulse is rapid weak, and thready, and the general surface of the body becomes deadly pale. In fact, the patient presents all the symptoms which characterize intense nervous shock, with the addition of violent cramp-like pains in the lower belly. The danger to life, under these circumstances, is imminent. The amount of sanguineous effusion in this class of cases is generally very large, or attended by laceration of some of the pelvic structures.

"*Secondly*, there is a class of cases where the seizure, though plainly marked, is yet unaccompanied by symptoms so alarming or so severe as those just described. More or less rigor, abdominal pains, and faintness are present, but not in such degree as to menace life, or to indicate any immediate danger. We might justly term this an acute invasion, or acute form of the disease; whilst, for sake of contra-distinction, the former might be called the intense form.

"*Lastly*, there is a sort of chronic form, the symptoms being developed very gradually, and in succession. These are cases where the diagnosis is beset with most difficulty, and there is a great liability of confounding the disease with pelvic abscess, or ovarian tumours. In each of these forms the symptoms I have traced belong to the initiatory stage, and attend upon the extravasating of the blood. It is possible, therefore, as experience has amply proved, for the same case to exhibit two of these groups of symptoms. In Case 1, for example, there were, undoubtedly, two attacks, or two successive effusions, the one characterized by chronic, and the other by acute symptoms. In Dr. Madge's case, to which allusion will presently be made, there were also two attacks at an interval of some days; the first attack was an acute one, and in the second attack the symptoms might justly be referred to the first or intense form of invasion. It may be laid down, in a general way, that the ulterior course and symptoms of the disease will take their character from its mode of inception."

On closely analysing the symptoms they are found to be those of

peritonitis, more or less acute, of the lower belly; and along with this the rapid development of a tumour behind the uterus, or in the hypogastrium, and commonly in both situations. The peritonitic symptoms are easily enough recognized, and the tumour is generally discoverable on superficial examination, but whether its contents be blood, serum, or pus cannot be positively determined by the most delicate sense of touch, and hence the importance of close attention to what Dr. M'Clintock calls the *commemorative* signs, and the order of their appearance; and the use of the exploring needle, may, when it can be used, afford valuable assistance. In the following passage the differential diagnosis is laid down with Dr. M'Clintock's usual clearness and distinctness:—

"The diseases with which it is most apt to be confounded are the following:—

"1. Retroversion of the uterus.
"2. Pelvic cellulitis.
"3. Ovarian tumours.
"4. Extra-uterine gestation, and
"5. Fibrous tumours of the uterus.

"Now let us see what are the most reliable semeiological points of difference between pelvic hematocele and each of these complaints.

"1. The sudden development of the tumour behind the vagina and the general pelvic uneasiness succeeding to this have caused pelvic hematocele to be mistaken for retroversion of the gravid uterus. But the far greater severity of the symptoms in the former complaint, the absence of dysuria and of the signs of pregnancy, and above all, the information derivable from a very cautious use of the uterine sound, should always suffice to guard the practitioner from committing such a fault. If the symptoms at all favour the suspicion of pregnancy, of course the sound should not be employed. As retroversion is the more common accident of the two, the error most likely to happen—and which has happened even in skilful hands—is that of mistaking hematocele for it.

"2. A more excusable error is that of confounding pelvic hematocele with pelvic cellulitis; and there is sometimes a close resemblance between these complaints. In each of them there are symptoms of local peritonitis, with fever, and the formation of a tumour. Nevertheless there are some important points in the histories of the two cases wherein they differ. Cellulitis, for example, most frequently succeeds to childbed; the tumour is slow in its formation: is always hard at first, and at a later period may, or may not, become soft; it is most often situated in one or other iliac region, and very rarely behind the cervix uteri; and the febrile

symptoms always and distinctly precede the marked development of the tumour.

"This is just the description of case in which the commemorative signs must be taken in connection with the physical signs, to ensure accuracy of diagnosis. If the case has been under our observation from the commencement, little or no difficulty will be experienced in recognizing its real nature; but where it comes before us for the first time in the chronic stage, and that reliable or particular information as to its previous history is wanting; then, indeed, there may be ample cause for perplexity. MM. Nélaton and Bernutz,—both most experienced observers and very conversant with this disease,—have each, under the circumstances last mentioned, mistaken pelvic abscess, for pelvic hematocele. Nélaton punctured the tumour through the posterior wall of the vagina; an immense quantity of pus, not blood, was discharged, and the woman recovered. The other patient died, when an enormous collection of matter was found in the hypogastric and left iliac regions. This had formed a tumour extending up to near the umbilicus.

"3. Ovarian cysts of small size sometimes descend into the retro-uterine pouch of the peritoneum, and may by adhesions or otherwise become confined to this situation so that their dislodgment cannot be easily effected. With this state of things should any active inflammation be set up in the cyst or its immediate vicinity, a practitioner ignorant of the existence of the ovarian tumour, might be greatly puzzled about the true cause of the symptoms. A fluctuating feel in the cyst, and the absence of any hypogastric tumour might assist him to a right conclusion, and a few days' observation would probably remove all doubt. Practically this delay at arriving at a diagnosis could not be productive of harm, as the treatment in either case would be much the same. If it became a matter of importance to solve the question, this could be done at any moment with the assistance of an exploring needle. Professor Braun's experience leads him to regard exploratory puncture as the only absolutely sure means of diagnosing between ovarian tumours and pelvic hematocele.

"It is important to keep in mind, as bearing on the diagnosis, that in nearly every case a tumour is developed behind and below the os uteri, from the blood gravitating down into the pouch of Douglas. It is extremely rare for an ovarian cyst to hold precisely this situation. More generally it is to one side or the other, and tends to displace the uterus downwards, and toward the side of the pelvis opposite to that in which the tumour is developed.

"4. Rupture of the cyst in extra-uterine fetation is an accident which may be followed by a train of severe pelvic symptoms, in no way distinguishable from those of hematocele. The prognosis would be certainly much graver, as rupture of the gravid cyst is almost always followed by

death: but beyond this I do not see that failure to discriminate between them would be of any material consequence. As a general rule we might expect more alarming symptoms to supervene on the giving way of a gravid extra-uterine cyst; and if such symptoms developed themselves in a patient who had previously manifested well marked indications of pregnancy, the highest degree of probability would then exist that the case was one of extra-uterine gestation ending in rupture of the cyst.

"5. One unacquainted with the infinitely varying phases of disease could scarcely think it possible that any confusion of diagnosis could ever arise between fibrous tumours of the uterus and pelvic hematocele. Nevertheless serious difficulty may present itself on this head. M. Bernutz alludes to a case under M. Goupil at the Hotel Dieu, in which the differential diagnosis between fibrous tumour of the uterus and pelvic hematocele could not be established, so many features did the case possess in common with both these diseases. M. Malgaigne, and Professor Stoltz (of Strasburg), have each committed the error of mistaking a pelvic hematocele for a fibrous tumour of the uterus. Malgaigne actually proceeded to remove the supposed fibroid by enucleation, and with this intention made the preliminary incision of the os uteri, when the hematic cyst was opened and the true nature of the case brought to light. The patient died in eighteen days afterwards. It is important to note, that in each of these cases the retro-uterine tumour, caused by the effused blood, presented no exceptional physical character: it was soft and fluctuating as hematocele always is. M. Stoltz's patient also died, and the existence of the hematocele was discovered at the necropsy. So confident was he she had uterine fibroid, that he made her case the subject of several lectures on the disease of which she was supposed to be an example. For some time before the acute symptoms seized her, the patient of M. Malgaigne had several attacks of simple metrorrhagia; and this strongly corroborated the idea of a fibrous tumour being seated in the uterus; which tumour, it was supposed, had been the cause of the hemorrhage and of the pelvic peritonitis."

The medical treatment of these cases resolves itself into the treatment of the stage of shock or depression; secondly—that of reaction and inflammation; and thirdly—the chronic stage. Authorities are divided as to the propriety of surgical treatment—that is, as to the puncturing of the cyst; and on this point Dr. M'Clintock says, that with his present impressions he would not be inclined to resort to the trocar, unless urgent symptoms were manifested in consequence of the bulk or mechanical pressure of the tumour, and

not even unless it were in the chronic stage, an opinion in which we fully concur.

The next memoir is on pudendal or uterine hematocele—the latter term, as already explained, being restricted to cases where blood is extravasated into the substance of the uterus, and some important cases are detailed where alarming and even fatal hemorrhages have arisen from the rupture of the cavity into which the blood was first effused. With this brief notice we pass over this memoir, and also the one that follows it, to come to the twelfth, which is on mammary inflammation and abscess.

Though this may be considered rather trite and common-place, it will be found by all his readers that Dr. M'Clintock has succeeded in giving it much interest. Sore nipples, and not the retention of milk, he looks on as the great cause of mammary inflammation, without, however, asserting that it is the only one; and the most effectual way of preventing the disease is by the proper treatment of the nipples, above all, by giving them rest. The idea that the retention of the milk is the cause of mastitis is, Dr. M'Clintock says, a lingering figment of the doctrine so strongly held by Puzos and the leading authorities of his day, and even later, which ascribed all puerperal diseases to the morbific action of milk; and hence the "milk leg," &c., of this class of pathologists, whom, says Dr. M'Clintock, Meigs, with contemptuous sarcasm, calls "the milk men." Two cases are detailed by Dr. M'Clintock of complete obliteration of the nipple of one breast where the patient nursed from the other; and where, notwithstanding that the affected breast became full and distended with milk, it gradually resumed the condition it was in before delivery, the only treatment adopted being the application of a cere-cloth. We have had a lady under our own care, in five confinements, who, in childhood, had got one nipple destroyed by a burn, and who has nursed each time from the other, and without any inflammation of the obstructed breast arising; and such cases are not uncommon; and this, along with the rarity of inflammation where nursing is not attempted, should satisfy all that over-distention is not the main cause of mammary abscess.

"The bearing of all this on practice is obvious enough. Actuated by the notion that the retention of the milk is the grand source of mischief, we find nurses, and patients, and occasionally even doctors, using every means, natural and artificial, 'to draw the breasts,' and not deterred from doing so by the presence of a sore or inflamed nipple; indeed this

is always considered by patients as an additional reason for the more vigorous employment of these exhaustive measures, and the natural effect of them is, to insure the occurrence of what is so much dreaded. I have no objection to suction of the breasts to relieve or prevent over-distension, *provided the nipple be not sore;* if this be the case, however, our first care should be to give it complete rest, as there is more danger of inflammation being induced by the sore nipple, than originating from the presence of the milk; and as for the distension of the breast, good hand-rubbing, and the application of the cere cloth, will seldom fail to relieve it. Before ordering a breast to be rubbed, it is of the greatest importance to make sure that the hardness arises from simple lacteal distension, and not from incipient inflammation. Through inattention to this, I have seen bad abscesses produced, which might have been prevented."

When inflammation has attacked the breast, Dr. M'Clintock relies chiefly on leeching, cold lotions, and the internal use of tartarized antimony for its subdual. His experience of applications of belladonna does not confirm all the praises it has received; and when matter has formed he recommends late rather than early puncture, and the early use of strapping after the contents of the abscess have been discharged.

The substance of the remaining memoirs has already appeared in our pages. They are on secondary hemorrhage after parturition; on the semeiological value of the pulse in childbed; on dropsy of the ovum, and on cystic disease of the ovum. They are too well known to our readers to require commendation at our hands, and, like those that precede them, are most valuable contributions to medical literature.

On Recent Physiological Researches made in England. By EDWARD SMITH, M.D.

1. *Experimental Inquiries into the Chemical and other Phenomena of Respiration, and their Modifications by Various Physiological Agencies.* By EDWARD SMITH, M.D. *Phil. Trans.*, 1859.
2. *On the Elimination of Urea and Urinary Water, in Relation to the Period of the Day, Season, Exertion, Food, Prison Discipline, Weight of Body, and Other Influences Acting in the Cycle of the Year.* By EDWARD SMITH, M.D. *Phil. Trans.*, 1861.

IF physiology and medicine are ever to attain the rank of exact

sciences they can expect to do so only on condition of accepting the rules that apply to those sciences—they must submit their facts to the rule and balance, and express them in the simple and intelligible language of number.

Dr. Smith's papers on the Excretion of Carbonic Acid and Urea are an attempt to conform to this rule, and therefore constitute a valuable addition to our knowledge.

Notwithstanding Dr. Smith's natural prejudice in favour of his own method of determining the daily excretion of carbonic acid, we cannot consider his method to be at all comparable in accuracy with that more recently practised by Pettenkofer and Voit, by means of which the whole daily quantity of carbonic acid is determined with precision.

With respect to the excretion of urea, he has been more successful, and it must be admitted, at the same time, less novel in his results.

We must, however, allow Dr. Smith to speak for himself:—

"Notwithstanding the number of valuable observations upon this subject which have been made since the publication of the first memoir of Lavoisier, there is but little which has been conclusively established. Of the causes inducing this, two have paramount importance—viz., the practice of deducing large from small quantities, in reference to a subject in which the quantities are ever varying, and the absence of any method whereby experiments could be repeated so frequently as to trace the changes actually proceeding during the inquiry. I have named these two because it is to correct them that I have directed my own observations.

"During the past year I had the honour to transmit to the Royal Society the results of an extended inquiry into the influence of various agents over the quantity of air inspired, a short abstract of which was published in the 'Proceedings' of the society. Since that period I have carried the inquiry further, and have determined the influence of those agents over the carbonic acid exhaled, as well as over other phenomena of respiration.

"The apparatus employed by previous observers for the determination of the quantity of carbonic acid contained in the expired air, has been one of the following description:—

"1st. That adopted by Prout,[a] Coathupe,[b] Vierordt,[c] and Boeker,[d]

[a] Thomson's Annals of Philosophy, Vols. ii. and iv.
[b] Philosophical Magazine, 1839.
[c] Physiologie des Athmens, &c.
[d] Beiträge zur Heilkunde, &c., 1849.

consisting of a bag or other vessel of known capacity, into which the air was expired during a certain time, and with a noted number of expirations; and a graduated tube, into which a portion of this expired air was passed, and the carbonic acid abstracted by potass, soda, or lime. This was adapted to experiments lasting a few seconds only at a time.

"2nd. A box of sufficient capacity to permit a man to be seated in it, and rendered air-tight, except at points which permitted the entrance and exit of air in given directions. The analysis of the expired air was made by the aid of potass. This was Scharling's[a] method, and by it he collected the products of the lungs and skin together, during a period not exceeding $1\frac{1}{2}$ hour. It was not practicable to determine the quantity of air inspired, or to what extent the air was respired more than once; and it was not easy to prove how much carbonic acid remained in the box.

"3rd. The method of Andral and Gavarret,[b] by which a mask of the capacity of an ordinary expiration was placed over the whole face, and a continuous current of air made to pass through it into an analytical apparatus without respiratory effort.

"As the motor power was a vacuum produced in the receiver of the expired air, the duration of each inquiry was limited to about half an hour; and as all the air admitted to the mask and the receiver did not enter the lungs, it was not possible to determine the volume of air inspired."

Dr. Smith's own method of finding the carbonic acid excreted consisted in passing the expired air, over caustic potash, through a series of chambers, so contrived that no carbonic acid was allowed to escape, and such that no pressure was exerted on the expired air. His results are excellent during the period of observation, but as they did not include, and necessarily could not include, the whole 24 hours of the day, they can only be regarded, like those of previous observers, as approximations to the mean daily discharge of carbonic acid.

The following, according to Dr. Smith, are the daily quantities of carbonic acid excreted by the lungs, according to previous observers:—

Observers.	Subjects of Experiment.	Carbon expired in 24 hours. oz.	gros.	
LAVOISIER and SEGUIN . .	One person.	10	4	French.
		5	7	
COATHUPE	One person.	5·45		Avoirdupois.
VALENTIN and BRUNNER .	Several.	9·202		Avoirdupois.

[a] Annales de Chimie, Vol. viii., p. 478.
[b] Ann. de Chimie, Vol. viii., p. 129.

Observers.	Subjects of experiment.	Carbon expired in 24 hours. oz.	
Andral and Gavarret .	Several.	4.0068 12	Avoirdupois.
Scharling	Several.	4.4 8.464	Avoirdupois.
Barral Skin also . .	One person.	8.5 12	Avoirdupois.
Liebig	Many persons.	13.9	Avoirdupois.
Vierordt	One person.	6.78	Avoirdupois.

In Dr. Smith's observations, an estimate is made for the 24 hours, from actual quantities determined from time to time during the greater part of that period, but the total quantity excreted in 24 hours was in no case actually weighed.

His calculated results are as follows:—

Mr. Moul.	Myself. Æt. 39.	Prof. Frankland.	Dr. Murie. Æt. 26.
Æt. 48.	6 feet high.	Æt. 33.	5 ft. 7½ in. high.
5 ft. 9½ in. high.	196 lbs. weight.	5 ft. 10½ in. high.	133 lbs. weight.
173 lbs. weight.	Vital capacity 270 cub. in.	136 lbs. weight.	Vital capacity 250 cub. in.
6·735 oz.	7·85 oz.	5·6 oz.	6·54 oz.

These results are estimated for perfect quietude; and the following is our author's determination of the influence of mechanical labour, which can scarcely be considered as very exact:—

"There yet remains for determination the influence of exertion. There are not on record any experiments in reference to the influence of exactly defined degrees of exertion, except that of raising certain weights through a given space in a given time; but Regnault, Vierordt, and others have ascertained in a general way that exertion increases the respiratory changes. I shall again refer to this subject at a future page.

"Whilst walking at two miles per hour during three-quarters of an hour, and carrying the spirometer, weighing 7 lbs., I expired 18·1 grains of carbonic acid per minute, and 25·83 grains when walking at three miles per hour. These quantities represent 1·85 and 2·64 times that of quietude in the sitting posture. Hence if three hours were spent in walking at two miles per hour, and one hour at three miles per hour, as is probably the case with the non-laborious class (2½ hours in the standing posture having been introduced into each of the two continuous inquiries above recorded when at rest), the addition to the daily quantity of carbonic acid evolved will be 2463 grains; and it is probable that thrice that quantity would be applicable to the really laborious class. It is true that

these are probabilities and not demonstrations; but if it be desirable to determine the daily amount of carbonic acid evolved by the community, it can only be effected by dividing them into classes, and determining the precise influence of certain agents during their period of action.

"These quantities give the following total average results in the twenty-four hours:—

In quietude . . 26·193 oz. of carbonic acid= 7·144 oz. of carbon.
Non-laborious class 31·824 oz. of carbonic acid= 8·68 oz. of carbon.
Laborious class . 43 oz. of carbonic acid=11·7 oz. of carbon.

or a general average of 33·67 oz. of carbonic acid and 9·18 oz. of carbon.

"As some of the elements in this calculation apply to myself alone, viz. those in reference to sleep and exertion, it may be of interest to determine my average apart from that of those who were conjoined with me in some parts of the inquiry. Thus,

In quietude . . . . . 28·8 oz. of carbonic acid= 7·85 oz. of carbon.
As a member of the non-laborious class 33·43 oz. of carbonic acid= 9·11 oz. of carbon.
As a member of the laborious class . . 45·7 oz. of carbonic acid= 12·19 oz. of carbon.

or a total average of 35·97 oz. of carbonic acid, and 9·72 oz. of carbon in the twenty-four hours."

The remaining part of Dr. Smith's paper is occupied with an account of his experiments on the excretion of carbonic acid resulting from the use of various articles of food, tea, coffee, alcohol, and so on.

We may gather from the preceding statements that the average estimate of previous observers was 8·31 oz. of carbon expired in twenty-four hours, or 30·47 oz. of carbonic acid; while according to Dr. Smith's results, only 6·681 oz. of carbon, or 24·497 oz. of carbonic acid, are daily discharged from the lungs of a person at rest; and it is somewhat remarkable that his own estimate of the expiration of carbon and carbonic acid, by the non-laborious classes, viz., 8·68 oz. of carbon and 31·824 oz. carbonic acid, should coincide so closely with the average of the observations of his predecessors, who, doubtless, all belonged to that class. If we assume, in round numbers, 30 oz. of carbonic acid per day, we shall, in all probability, not be far astray in our estimate.

The second paper, by Dr. Smith, on Urea and Urinary Water, contains the results of one of the most laborious and long continued series of observations yet made on this important subject.

The principal part of it consists of observations made upon himself, from 18th January, 1860, to 18th March, 1861, numbering

altogether 1,633 observations of urinary water, and 1,073 analyses for urea on 336 days.

The final average result of this long series of observations was:—

1. Average excretion of urea daily, from 18th March, 1860, to 19th March, 1861, . . 519 grs.
   Urea excreted per lb. of body weight, . . 2·73 „
2.[a] Average excretion of urea daily, from 18th March, 1861, to 18th March, 1862, . . 480 „
3. Average excretion of urinary water, from March, 1860, to March, 1861, . . . 53·1 oz.
4.[a] Average excretion of urinary water, from March, 1861, to March, 1862, . . . 49·2 „

These averages, obtained by Dr. Smith, from two years' observations on himself, confirm, in a striking manner, the results recorded by Dr. Parkes, and the observations of the Rev. Professor Haughton, and show that the important constants of daily excretion of urea and urine, may be regarded as well established. The following are the results of the three writers:—

Daily Excretion of Urea and Urine.

Authority	Urea	Urine	Grs. of Urea per lb.
Rev. Dr. Haughton,	493·19 grs.	52·6 2oz.	3·33 grs.
Dr. Parkes, . .	512·40 grs.	52·44 oz.	3·36 grs.
Dr. E. Smith, .	499·50 grs.	51·15 oz.	2·73 grs.

Dr. Haughton obtained his results by observations on ten persons of different habits, carefully brought, previous to experiment, into the condition of dynamico-physiological equilibrium.

Dr. Parkes' results are the average of a great number of observations made by German, French, American, and English chemists.

And Dr. Smith's, as we have seen, are the result of the most prolonged series of observations as yet made upon a single individual.

All three methods, though essentially different, give the same results, except as to the proportion of the excretions to body weight; with respect to which we should, of course, give a preference to the numbers recorded by Haughton and Parkes, as they are based upon more than a single subject of observation.

[a] This information was added to the paper while passing through the press.

We cannot follow our author through the very interesting details of his discussion of the relation of urea and urinary water, to the hours of meals, day and night, and the seasons of the year—but proceed to extract the following, which will be read with interest by many:—

"*Relation of Urea to exertion.*

"The effect of exertion has, until very recently, been determined only in an indefinite manner and during short periods. Draper, Speck, and Lehmann found no increase in the urea, whilst C. J. Lehmann, Hammond, Beneke, and Beigel found a variable increase not exceeding 25 per cent. When much sweating occurred, as it commonly did with severe exertion, it was assumed that urea had been lost by the perspiration, in accordance with the results obtained by Funke and Meissner. The excretion of urinary water varied in the different experiments. Voit has, I believe, recently ascertained that with prolonged exertion a dog did not emit any materially increased quantity of urea—a result which will now be shown to correspond with my own preceding and contemporaneous experiments.

"The relation of urea to exertion was determined by the second series of inquiries, viz., those made on four prisoners from March 1 to March 26, 1860.

"The treadwheel is a revolving drum, with steps placed at a distance of 8 inches upon the outside of the cylinder; and the prisoners are required to turn the wheel downwards by stepping upwards. The rapidity of revolution is regulated partly by the weight of the prisoners, and partly by a governor, and, therefore, is not absolutely uniform. The prisoners grasp a crossbar, and partly hang by it, and the body is held behind its centre of gravity. They were engaged in this labour in alternate quarters of an hour, the intervening periods being occupied in perfect rest in the sitting posture. The duration of this mingled labour and rest was from 7.15 to 8.25 a.m., 10.10 a.m. to 1.50 p.m., and 3.10 to 5.20 p.m.; so that the total period of actual labour daily was $3\frac{1}{2}$ hours. The total ascent per hour of continuous labour was 2160 feet, and per day 1·432 mile. The average weight of each man at the end of the inquiry was 105·125 lbs., 108·125 lbs., 120·5 lbs., and 122·625 lbs. avoirdupois, and of the whole, 112·75 lbs; and therefore the number of tons which they lifted one foot per day was a follows, upon the data used by Professor Haughton:—

TABLE XXXI.

No. of Prisoner, ...	858	948	1040	1041	Average of all
Weight in lbs.,...	105·125	108·125	120·5	122·625	113·75
Tons, 1 foot daily,	354·81	356·76	406·56	413·89	383·9

"Hence the average labour of each man was represented by lifting 384 tons through one foot per day, and this was exacted on alternate days only, on Tuesday, Thursday, and Saturday, whilst Sunday was a day of almost unbroken rest. There were during the inquiry 10 days of treadwheel labour, 10 of very light labour, and four of perfect rest."

The table given by Dr. Smith of the excretion of urea, urine, and chloride of sodium, on days of hard and light work, appears to contain some anomalies; for example, the daily quantities of chloride of sodium are more than double those given by other observers; and one of the subjects of experiment appeared to undergo a retardation in the discharge of urea that was altogether exceptionable.

"The average of all the observations gives the following results. On Sundays the elimination was to the extent of 494 grs., on days of comparative rest 512 grs., and on treadwheel days 528 grs. The increase on the days of treadwheel labour over that of mere routine labour was 16 grs. per day. The prisoner No. 1041, to whose exceptional returns I have before alluded, had no average increase with treadwheel labour, but, on the contrary, there was an average decrease of 51 grs., and the increase was carried on to the following day. The three other cases exhibited an increase of 37 grs., 59 grs., and 21 grs. daily, or an average of the three of 42 grs. daily with labour."

We do not think that 42 grs. of urea are sufficient to account for 384 tons lifted through a foot; and, indeed, from subsequent experiments made in June, 1861, in Wakefield Prison, it would appear that the difference in the excretion of urea on working and idle days is much greater than 42 grs.

"Four men, of regular habits and in a good state of health, were selected. Two were weavers of wide-width cocoa-matting, which is a very laborious occupation, and two were tailors. Their ages were 19, 22, 24, and 28 years. Their height was $64\frac{3}{4}$, 66, $66\frac{3}{4}$, and 67 inches; and their weight 118 lbs. 11 oz., 125 lbs. $12\frac{1}{2}$ oz., 146 lbs. $11\frac{3}{4}$ oz., and 146 lbs. $15\frac{3}{4}$ oz. The girth around the nipples was $32\frac{3}{4}$, $34\frac{1}{4}$, $35\frac{3}{4}$, and $35\frac{1}{4}$ inches, giving an average of nearly $34\frac{1}{2}$ inches. The total averages of age, height, weight, and girth were $23\frac{1}{4}$ years, 66·1 inches, 134 lbs. $8\frac{3}{4}$ oz., and $34\frac{1}{2}$ inches.

"They had been fed upon the highest class of prison dietary; but as that consisted of too much variety of food for our purpose, it was deemed advisable to give them a uniform daily dietary during one week before the experiments began, and it was thenceforward continued without intermission until the inquiry terminated.

"The food supplied daily was in part fixed and in other part variable in quantity. The fixed quantities were those of meat, oatmeal, and potatoes, and the variable ones those of bread, salt, and water. Milk was given in a fixed quantity, but the amount supplied was not uniform in the two classes of prisoners. The meat consisted of 5 oz of lean and 1 oz. of fat cooked beef without bone. The supply of oatmeal was 2 oz., and of cooked potatoes 1 lb. daily. 20 oz. of skimmed milk were given to the tailors, and 25 oz. to the weavers. The daily quantity of bread eaten was on the average 24·3 oz. by the tailors, and 30·4 oz. by the weavers, or a general total of 27·35 oz. The quantity of chloride of sodium eaten (besides that contained in the bread) was 136·5 grs. daily by the tailors, and 63·5 grs. by the weavers, giving an average of 100 grs. daily. There was considerable variation in the quantity from day to day; for whilst one of the tailors ate an average amount of 199·3 grs., the other tailor ate only 73·8 grs. The quantity of water drunk, besides that contained in one pint of gruel, was only 23·8 fluid ounces on the average; and this with the milk gave a total daily supply of fluid of 66·3 oz. The weavers drank much more than the tailors; and the total quantities in the two classes were 80·5 oz. and 52·1 oz. The solid food was 51·8 oz., and the fluid 66·3 oz., or a total ingestion of 118 oz. daily.

"The total average daily quantity of urea evolved was 655·65 grs., of which 608·4 grs. were emitted by the tailors, and 702·9 grs. by the weavers. The maximum and minimum amounts were 790 grs. and 456 grs.—the former in the weavers, and the latter in the tailors. In the weavers the quantity exceeded 700 grains on seven of thirteen days, whilst it occurred only three times during that period in the tailors; and in only one instance during the inquiry was it below 500 grains daily.

"The quantity of urea to each pound of body-weight was 4·812 grs. in the tailors, and 4,675 grs. in the weavers; but it varied in the former from 3·72 grs. to 5·82 grs., and in the latter from 3·62 grs. to 5·39 grs. on different days. The quantity of urea eliminated was always lessened on the Sunday. The diminution in the tailors from the Saturday to the Sunday was 145 grs. and 122 grs., and in the weavers 26 grs. and 92 grs., yielding an average diminution of 96·25 grs.

"The quantity of urea in each ounce of urine was on the average 14·9 grs. in the tailors, and 15·25 grs. in the weavers, giving a total average of 15·075 grs. The maximum and minimum quantities were 18·8 grs. and 12·3 grs. in the tailors, and 17·84 grs. and 13·53 grs. in the weavers."

From these observations it would appear that 96 grains of urea represents the difference between working and idle days. Now, this is a quantity more than double that already found from the treadwheel labourers, and yet the labour of the treadwheel is set

down at 384 ft. tons, which is certainly a far greater amount of work than the weavers or tailors could have done.

It is many years since so elaborate and laborious a series of physiological observations have been given to the world by an English physician. With many of Dr. Smith's inferences from his observations we are unable to agree, without further and better observations, particularly as to the influence of mechanical work on the excretions of carbonic acid and urea; but we only express the universal feeling of physiological enquirers when we say that his researches leave no doubt any longer possible on the average daily excretions in health, of carbonic acid, urea, and urinary water.

These important excretions admit of being stated very accurately in numbers easily recollected, viz:—30 oz. of carbonic acid, 50 oz. of urinary water, and 500 grs. of urea.

Prolapsus, Fistula in Ano, Hemorrhoidal Affections, their Pathology and Treatment. By T. J. Ashton. London: John Churchill.

For several years Mr. Ashton's name has been associated with the diseases treated of in the small volume before us. In Vol. XVII. of this Journal, New Series, May, 1854, his first publication—*A Treatise on the Diseases, Injuries, and Malformations of the Rectum and Anus*—came under our editorial criticism; motives of retributive justice compelled us to notice that work in severe terms. Bushe, of New York, who received his surgical education in this city, had just terminated his earthly labours, and his *Practical Treatise on Diseases of the Rectum* was the most complete work on the subject then extant. Mr. Ashton availed himself largely of its contents, copying whole paragraphs, nay, even pages, with singular fidelity. We should not have reverted to this unpleasant subject, were it not that the volume at present under review may be considered as an off-shoot from the first and larger treatise referred to, which, as Mr. Ashton remarks, has so far met with the "approval of the profession, as to have passed through three editions." The abridgment which now engages us, treats only of those affections, "which by their frequency more constantly claim attention, apart from those of more rare occurrence." We

have read it over carefully, and do candidly confess that, as a brief, well-digested, practical treatise, free from those visionary refinements and theoretical innovations so prevalent in the present age of redundant book making, and well adapted to the wants of the majority of surgical practitioners, it has few rivals, perhaps no superior. This tribute of praise we feel bound to accord to the present volume, carefully compiled, as it is, and amended, although, as we have just stated, its parentage is not free from disreputable tainture.

In the chapter on prolapsus, the practical importance of making a careful diagnosis between the two conditions under which the displacement occurs is strongly insisted upon, namely:—1st, That depending upon some morbid condition or alteration of the bowel itself. 2nd, That arising from relaxation and a loss of tone in the muscles intended to close and support the intestine, "for an operation that is applicable in the one instance, and would entirely free the patient from the misery he endured, would, in the other, be followed by a serious aggravation." "When the protrusion arises from a voluminous and lax condition of the bowel itself, the object to be effected is, reducing (*sic*) its calibre as nearly as possible to its natural capacity, and producing such an amount of adhesion to the deeper structures, as is found to exist in the healthy bowel." As our readers are aware, various expedients have been proposed, at different times, for accomplishing this object. Mr. Ashton prefers the simple plan originally proposed by Copland—one, two, or more folds of mucous membrane, according to the extent of the disease, are pinched up, and included in a firm round ligature, drawn tight, so as to effect complete strangulation; or the fold may be transfixed with a double ligature, and tied in separate portions. In less severe forms of prolapsus, the application of the strong nitric acid to the mucous membrane is strongly recommended, and this plan has been practised in several of the Irish hospitals for several years past, with very satisfactory results. To the inverted surface of the prolapsed intestine the acid is applied in a linear manner, from above downwards, of course, carefully avoiding the marginal skin.[a]

"But if the protrusion is the result of relaxation of the sphincter ani, and the tissues not depending upon nervous lesion, it is evident any operation performed on the bowel could not be beneficial, but,

[a] Cases illustrative of this practice will be found in Nos. 3 and 8 of the first Vol. of the Dublin Hospital Gazette, published in 1854. They are reported (with clinical remarks) by Dr. Christopher Fleming and Dr. B. M'Dowel.

on the contrary, would be highly improper and prejudicial. Here the end to be attained is the restoration to the tissues closing and supporting the terminal portion of the intestines of the function they have lost; this is to be accomplished by excising a fold of the lax integument, mucous membrane, and superficial muscular fibres from both sides of the anal margin"—a modification, in short, of the operations long ago proposed by Hay and Dupuytren—"Judgment is required with respect to the extent of fold that is removed, enough must be taken away, so as effectually to cure the malady, but the surgeon must be careful, that whilst seeking to remove one source of annoyance, he does not produce another, which will give more trouble than the primary affection, namely, contraction of the anus"—a most important precept, never to be lost sight of.

The chapter on fistula in ano, is a very fair practical digest of the pathology, causes, and treatment of this very common and sometimes dangerous ailment. The author discusses fully the different modes in which the disease may originate, and alludes to the difference of opinion existing between several eminent authorities as to the mode of formation of the internal opening in complete fistula. Sir B. Brodie and Ribes assert very positively, that the disease commences from within the intestine, either by perforation of the gut, as maintained by the first named distinguished surgeon, or the ulceration of piles, as asserted by the latter; whereas Mr. Syme is equally dogmatical as to the disease proceeding in the opposite direction, and remarks, "I do not hesitate to affirm that, when a fistula in ano is formed, the mucous membrane always remains entire in the first instance, and is never perforated until after suppuration has taken place." Good reasons are given for rejecting the exclusive adoption of either opinion. A more important question is the usual position of the internal opening of the fistula. This, in the majority of instances, will be found just above the junction of the mucous membrane, with the integument of the anus, as was long since established by the investigations of Ribes.

Amongst the various symptoms attendant upon the disease, and indeed, also upon hemorrhoidal affections, a pain extending down the leg and foot is noticed, as not being unlikely to be mistaken for sciatica, if the history of the case were not carefully inquired into.

Having briefly alluded to the numerous plans proposed at different times, and the sundry instruments employed for the division of the fistula, and commented on the inefficiency, as a

general rule, of the other modes devised for curing the disease, viz., pressure, injections, ligature, &c., Mr. Ashton expresses himself strongly in favour of operation by a limited incision, not extending above the position of the internal opening.

"The importance and advantages of the observations of M. Ribes, regarding the situation of the internal opening of a fistula, and the principles deduced therefrom, namely, that it is not necessary, for effecting a cure of the disease, to carry the incision to a greater height than where it exists, or where the mucous membrane is denuded and thinned, if there is no internal opening, is now fully established. Mr. Syme has for years inculcated and acted upon these principles in his practice, and testifies to their perfect success. I have never carried my incisions higher, and have never been disappointed in the result. But some surgeons of great ability and experience in the profession, and writers of high authority have pursued the practice of Mr. Pott. Sir A. Cooper advises, 'if any portion of the sinus remain above the opening into the rectum, it should be divided with the probe-pointed scissors.' Liston was in the habit of dividing the sinus throughout; Fergusson adopts the same practice; but Dr. Bushe, whose practice was very extensive, divided the textures as high only as the internal opening into the rectum, and always found it sufficient for the cure."

More than half the volume is occupied with the consideration of hemorrhoidal affections; a very good description is given of the different varieties of pile, as also of the vascular tumour, and polypus of the rectum. It would be no easy matter to break new ground upon so threadbare a subject, but this section of the book comes fully up to the present date in all that concerns the pathology, symptoms and treatment of the diseases of which it treats. Cognizance is taken of two recent innovations, neither of which, however, are likely to find favour in our sight.

"M. Amussat advocates what he terms the circular cauterization of the base of hemorrhoidal tumours, which he effects by means of variously constructed forceps, the blades of which are charged with Fulcho's caustic. The advantages of the plan are not very apparent, and when we are told it is necessary to irrigate the parts with cold water, for several consecutive hours, and that one patient to relieve the pain sat in a cold bath for a week, it is not likely to be generally adopted. Another plan for the removal of hemorrhoids and other growths, emanated in Paris, and became a fashion for a time, but happily, in England at least, is now little practised. I allude to their ablation by that crushing, lacerating,

and unscientific machine, the écraseur, which in appearance and operation suggests the idea of belonging rather to the torture chamber of bye-gone ages, than of being an instrument of modern surgery. M. Nélaton reports that many who have been operated on by it, are now the victims of traumatic stricture of the rectum."

The surgical treatment recommended is that which is ordinarily pursued in our Irish hospitals, viz.:—For internal piles, the ligature, in most cases to be passed double through the base of tumour, and each half tied separately—for external piles, excision. When internal piles encroach upon the margin of the anus, a combination of both methods is to be practised, incision of the lower portion of the swelling, and ligature of the remainder. For the soft bleeding tumour of the rectum, nitric acid is the most appropriate remedy, as first advised by Houston. The following paragraph inculcates a useful precept:—

"When external piles exist with internal ones, they must be excised at the same time that the others are operated on, as they will become inflamed by the irritation that necessarily follows, and occasion extreme pain and annoyance. But it is highly essential that a correct diagnosis be made between external piles, and the œdematous swelling of the margin of the anus, induced by the condition of the internal piles, for if an error is made, and the œdematous integument removed, the serious evil of contraction of the anus will ensue on the cicatrization of the wounds."

Having so far noticed the contents of Mr. Ashton's publication, we have no hesitation in recommending it to our readers, as a good practical compendium of the important and very numerous class of diseases of which it treats. As may be perceived from the extracts quoted, the volume is not free from blemishes of composition—but these do not detract from its professional value.

Lectures on the Principles and Practice of Midwifery. By Edward William Murphy, A.M., M.D. Second Edition, Enlarged and Revised. London: Walton and Maberly. Post 8vo., pp. [illegible]

Parturition is a process essentially physiological. In its normal course it is directed by invariable laws, the principal element in

originating and completing it being reflex nervous action. That labour does not constantly maintain its physiological characters experience amply proves; and numberless instances occur where pathological differences prevail, from the slightest deviation of the acknowledged rules to the most formidable complications which peril the parturient woman. Hence the gradual development of obstetric science and art to avert the dangerous tendencies of these multitudinous pathological conditions. It is true that nature is able to overcome many of these with but little danger to the mother or offspring; but, in others, art must be had recourse to, to rescue both from the threatening dangers. Within the past 25 years numerous reforms have been proposed, and various practices developed, to abridge the sufferings of the parturient patient, by shortening the duration of the labour. This "young midwifery," in all its advancement, has, however, met with much opposition from those of the old school, so that students and junior practitioners have been bewildered as to the modes of practice to be adopted under many of the difficulties that arise. The usual result of opposition of this nature has, however, at length occurred—truth has prevailed, and the junior obstetric practitioner of the present day considers it no longer necessary to be guided solely by the traditions of the past; but relying with confidence on the teachings of science and experience, sees in the result gratifying evidences of the good effects of these great reform principles.

The work before us is divided into three parts; the first division, consisting of eight lectures, being on gestation. Natural parturition and its complications are considered in the second division, 26 lectures being devoted to this object. The remaining seven lectures, of the third division, are on lactation, together with *post partum* inflammations and fevers; and there is an appendix, chiefly consisting of statistical tables. The author, who commenced his career as assistant in the Dublin Lying-in Hospital, is so well known to our readers, both by the former edition of this book, and by his contributions to our pages, that it is almost unnecessary that we should say that the various subjects discussed have, on the whole, been treated with a wisdom derived from matured experience. Yet, in some respects, we think his teaching not such as the present advanced state of obstetric science requires; and to these we shall, in the first place, direct attention. Since the publication of the first edition of Dr. Murphy's lectures great changes have taken place in the opinions held in the Dublin school of midwifery as to

the management of tedious and difficult labours, especially as to the affording of assistance at an early stage, and as to the use of the forceps; and, as we consider Dr. Murphy as a representative of our school, and as, by his frequent allusions to the practice of the Dublin Lying-in Hospital, he draws special attention to the relation he bears to us, and is consequently likely to be taken by many as an exponent of our views, we think it necessary to dwell more at length on the points on which we differ from him than we should otherwise do; and, as these more particularly occur in the following passage, we think it better to give it nearly in full before entering into any criticism:—

"*Delivery of the Child in Protracted Labour.*—Having given this brief outline of the general treatment necessary in these protracted cases, we shall now enter upon the more difficult question of their management to secure the delivery of the child, assuming that instrumental aid is not rendered imperative by the presence of inflammation or exhaustion. It is hardly necessary to state that there is every variety in the degree of disproportion between the head and the pelvis. In some instances, it is so slight that the child may be safely delivered without any assistance; it will only occupy a longer time in passing through the pelvis. In others, the amount of difficulty may be so much increased as to render it doubtful whether the head can pass without assistance; and it is in these cases that the rules which are given for your guidance are the most contradictory. Again: there may be a still greater disproportion, in which you can have no doubt about the improbability that the head can be expelled by the natural efforts of the uterus, although there is very great doubt, and no little dispute, as to the means by which the head must be extracted. Lastly, in occasional instances the narrowness of the pelvis is such, or the magnitude of its distortion is so great, that the safe delivery of the child is hopeless: the head must be lessened; the child must be destroyed before it can be brought into the world. In extreme cases, even this cannot be done; but recourse must be had to the difficult and dangerous operation of removing the child from the uterus by laying it open, in order to save the mother from the dreadful alternative of dying undelivered.

"In those cases of slight deviation from the standard pelvis, where there is every evidence of space sufficient for the head ultimately to pass, if nature be allowed time for the purpose, you would not, of course, interfere with her; although we believe instances might be quoted where *very adroit operators* have, even in such cases, relieved the tedium of a long attendance by a ready application of the forceps. It is sufficient to say that the united testimony of the profession, given in every standard

work of midwifery, is opposed to such a practice; and if any accident should arise from this mischievous meddling, the operator is fully responsible for all the consequences that follow from it. But in those more doubtful cases, in which there seems hardly sufficient space for the head to pass safely through the pelvis, the practice is not so clear, nor is the evidence of the profession so unanimous on the subject. When, in such instances, the head is actually arrested, and so remains for some hours in the same position—a sufficient length of time to satisfy you that the uterus cannot advance it; if the ear can be felt, or the finger be passed easily between the head and the pubes, you may use the forceps to deliver the child, and we think the weight of authority will support your practice. But when the head is not so arrested, but, at the same time, advances so extremely slowly that it seems to be arrested, you have here the discordance of authorities at once confounding you.

"In the last generation, we find Burns, Hamilton, and Campbell advocating prompt interference when the second stage is making such slow progress; while Wm. Hunter, Osborne, and Denman were opposed to the use of instruments so long as the natural efforts seemed adequate to their object. At the present time, Dr. Collins has laid down the rule 'that so long as the head advances, *ever so slowly*, the patient's pulse continues good, the abdomen free from pain or pressure, and no obstruction to the removal of urine, interference should not be attempted unless the child be dead.'

"This principle has been severely attacked; and in the controversy a new and very important question has been raised by Professor Simpson, which if true, would decide in favour of interference in all such cases. He has shewn from statistics that mortality is increased in direct proportion to the length of the labour; that a labour of four hours duration is more fatal than one of two hours; one of eight hours than one of four; and so on. Hence the inference that protracted labours are dangerous because of the *time* they occupy. We have given this important proposition the reflection it so justly merits; but confess we cannot coincide in the conclusions drawn from it. It seems to prove too much; that not only are the longest labours the most dangerous, but that the shortest are the safest: neither of these propositions has the support of our experience. The dangers of protracted labour depend upon many causes; and, if the constitution be good, *time alone* is the least injurious. Rapid labours are attended with risks from which those of moderate duration are free. We do not think, therefore, that the shortest labours are the safest, or the longest *in time* the most dangerous. This question must be determined by individual experience; because there are many causes of error very difficult to remove from a statistical calculation, which would lead to a false conclusion. The time which labour occupies involves the question—What causes the delay? If a difficulty exist

leading to a fatal result, the death is attributed to the time occupied, not to the obvious cause; so that it may be perfectly true that labours are dangerous in proportion to their protraction, and yet not true that the danger consists in the time occupied. Dr. Simpson has taken Dr. Collins's tables as the basis of his calculation. These were derived from the Dublin Lying-in Hospital exclusively. In that hospital, women were frequently brought in when labour had made considerable advance. Those delivered in one, two, or four hours, may have been a much longer time in labour before they entered the hospital. The actual duration of labours under six or eight hours in that institution was quite uncertain. These statistical results may prove that every hour spent in the hospital increases the danger to the patient; but this proves nothing with regard to labours of one, two, or four hours' duration; because in such cases there was no certainty as to actual length. The time stated in the report was the duration of labour *while in the hospital.*

"With every wish to avoid controversial questions, that before us is too important to pass over. Professor Simpson's able researches have been quoted as an authority for the most unscrupulous use of instruments. Women in perfectly natural, and even easy labours may be delivered by the forceps; and if they be persuaded that it is dangerous to allow the labour to proceed when it can be at once terminated, the argument is a justification for immediate delivery. Thus those whom Dr. Blundell well describes as 'obstetric reprobates' go about with the forceps to deliver the child the moment it comes within reach, and will quote Professor Simpson as their authority for the practice.

"This practice is not new; Chamberlen and Roonhuysen followed it when the forceps and vectis were first invented. The mischiefs done by the followers of these men led a succeeding generation to protest strongly against this abuse, some eminent and experienced men, as Osborne, almost excluding the forceps from practice; and thus, ever since, a struggle has been going on between those who consider the art of midwifery to be the quick delivery of the child, and those who believe it to be the art of assisting nature to overcome a difficulty. Those names who stand highest as men of eminence and of the largest experience are perfectly agreed upon the impropriety of unnecessary interference, or, as Blundell describes it, 'mischievous meddling.'

"Professor Simpson's statistics show the proportionate mortality in protracted labours, but do not, could not, state the mortality if the duration of labour were shortened by instrumental interference. It is assumed that the mortality would diminish; but this is not proved. We have endeavoured to determine this question in the only way which seemed to us practicable; by comparing the results where the forceps had been used to conclude labour, and where it had been allowed to proceed in a protracted course to terminate without assistance.

"For this purpose, the only reports upon which we can depend are those of the Dublin Lying-in Hospital. In all others we have forceps operations, and the results to mother and child, but we have no knowledge of the effects of merely protracted natural labour.

"In this respect, therefore, these reports from their fulness and accuracy are especially valuable. Three reports have now been published, giving the results of different—we might say—opposite practice under precisely the same circumstances :—

Reports of	Total Cases	Natural Labours above 24 hours					Forceps Cases					Vectis Cases				
			Mothers		Children			Mothers		Children			Mothers		Children	
			L.	D.	L.	D.		L.	D.	L.	D.		L.	D.	L.	D.
Dr. Collins, .	16,654	324	299	25	263	61	24	20	4	16	8	3	3	–	3	–
Drs. Hardy and M'Clintock, .	6,634	171	162	9	119	52	24	19	5	11	13	17	17	–	8	9
Drs. Johnston and Sinclair,	13,748	247	235	12	198	49	200	189	11	171	29	–	–	–	–	–
	37,036	742	696	46	580	162	248	228	20	198	50	20	20	–	11	9

"The total of these reports give the following results:—742 women, having labour protracted beyond 24 hours, were delivered without aid; 46 died, being nearly in the proportion of 1 to 16; 162 children were lost, being in the proportion of 1 to 4·6; 248 women were delivered by the forceps, and of these 20 died, or 1 in 12·4: 50 children delivered by forceps were lost, or about 1 in 5.

"So far, therefore, as the general results are concerned, the mortality of mothers in protracted labour will bear comparison with that where the forceps were employed. In both instances the maternal mortality is higher than the average, because it was impossible to separate cases of puerperal fever from ordinary labours. Of necessity, therefore, the mortality was increased. In placing, however, the question in the clearest light, the practice of Dr. Collins, who only used the forceps once in 694 cases, may be compared with that of Dr. Shekleton (Johnston and Sinclair's *Report*) who used it once in 68¾ cases. Both were in charge of the same hospital and of similar cases. The deaths of mothers delivered (without the forceps) in protracted labours, were 1 in 16. (Dr. Collins's *Report.*) The deaths of mothers delivered with the forceps, were 1 in 18. (Drs. Johnston and Sinclair's *Report.*) If this difference on the one side be compared with that on the opposite (1 in 12·4) from the total results, it may be said to disappear; proving that, in cases of difficult labour, which are of necessity protracted, mere duration does not increase the mortality."

Dr. Murphy next quotes the tables of foreign practice, as given by Dr. Churchill, and proceeds:—

"We have endeavoured to prove, from the fairest review of statistical evidence we can make, that, in difficult labours, where so much judgment is required, there is no essential difference in the maternal mortality, whether the forceps be used or not. The deaths of children are also alike, one in five cases. 'The total result,' says Dr. Churchill, 'is that in 5,731 cases' (of forceps operations) '998 children were born dead, or about 1 in 5.' (*Midwifery*, p. 344.)

"We have shewn (p. 275,) that in protracted labours the deaths of children were 162 in 742 cases, or about 1 in $4\frac{2}{3}$, an immaterial difference. Hence in such cases the experienced practitioner may exercise his own judgment, uninfluenced by fear of delaying assistance on the one hand or of affording it on the other. In fact, every case of difficult labour requires to be considered individually, and the treatment must vary with the conditions. If it should happen, as in many of Dr. Collins's cases, that time was necessary in order so to mould the head to the inequalities of the pelvis, that it might pass through, the practitioner need not be under the apprehension that every hour's delay increases the danger, and be led against his will to a mischievous interference. If, on the other hand, the case seem to indicate a chance of saving the child and shortening labour without injury to the mother, he will not hesitate to interfere."

There is much in these extracts to which we must take exception, but especially the reference to the Statistics of the Dublin Lying-in Hospital. But first, we must protest against the misrepresentation of Dr. Simpson's views—for such we believe it to be—to say, as many other writers besides Dr. Murphy have done, that he teaches, "that protracted labours are dangerous, solely because of the *time* they occupy;" or that assistance is to be given simply because of the length of time the labour has occupied. His argument, as stated in the first part of this paper, may, it is true, bear this construction; but in the same paper it is explained as follows:—"It may be laid down," he says, "as a general proposition, that *the liability to most of the morbid complications connected with labour increases in proportion as the labour increases in duration.*"[a] This is a proposition the truth of which cannot be gainsaid, and yet, one that can afford no support to the "obstetric reprobates" referred to by Dr. Murphy. But the attempt to weaken Dr. Simpson's argument by casting a doubt on Dr. Collins' statistics is a still more extraordinary part of Dr. Murphy's statement. The assertion that

[a] Obstetric Memoirs, Vol. i., p. 528.

"the time stated in the report (Dr. Collins') was the duration of labour *while in the hospital*," will probably astonish no one more than Dr. Collins himself, who states distinctly, that his tables refer to the duration of labour from its commencement, and not from the time of the admission of the patients into the hospital. Thus, in his Report, page 21, Dr. Collins says, "I shall now give a concise statement of the *duration* of labour in the 16,414 women delivered; and also the result to the mother. In 564 cases the duration cannot here be stated, many having been delivered immediately on admission, others on their way to the hospital, and some were not noted." Then follows the tables in reference to these cases; and, in a summary, he commences—"Thus, of the 15,850 cases *noted*, 15,084 were delivered within 12 hours of the *commencement of labour*, *&c.*,"

We will not stop to show that Dr. Murphy virtually admits all that is contended for (Dr. Collins' data having been proved to refer to the entire duration of labour), when he says, "these statistical results may prove that every hour spent in the hospital increases the danger to the patient"—but will follow him in his examination of the published Reports of the Dublin Lying-in Hospital; and we must say, the statements in this part of the extract amaze us by their inaccuracy; we cannot believe that Dr. Murphy would wilfully distort the facts to support his theory, and can only understand his falling into such serious errors by remembering what a profound philosopher has told us of the nature of a hypothesis,[a] that it absorbs and converts all things to its own use. On a former occasion we have, ourselves, tried to obtain a solution of the question at issue, by a comparison of the three published Reports of the Dublin Lying-in Hospital, when, certainly, the results we obtained were widely different from those now put forward by Dr. Murphy. We showed that the deaths of the mothers in protracted cases, in Dr. Collins' report, where no assistance had been given, were 12 in 171 cases, which is equal to 1 in 14·25, instead of 1 in 16, as stated by Dr. Murphy; but even this is below the actual mortality, for the total number of tedious and difficult cases recorded in Dr. Collins' report is 264, of whom 171 were allowed to be delivered unassisted; and, on close examination, it will be

[a] "It is the nature of an hypothesis," says Tristram Shandy, "when once a man has conceived it, that it assimilates everything to itself as proper nourishment; and, from the first moment of your begetting it, it generally grows stronger and stronger by everything you see, hear, read, or understand."

seen that 54 of these do not come under the head of tedious and difficult labours, viz.—7 cases in which there were convulsions, 8 rupture of the uterus, 6 prolapsed funis, 3 arm presentations, 1 foot, 11 breech, and 18 twin cases—so that the numbers should stand thus:—There were 210 tedious and difficult labours; of these 117 were allowed to deliver themselves unassisted, of whom 12 died, being at the rate of 1 in 9·75; and 14 were assisted by the forceps or vectis, of whom 4 died, being at the rate of 1 in 3·5; and 79 by the perforator, of whom 15 died, being at the rate of 1 in 5·27; and of the total 210 tedious and difficult cases 31 died, or 1 in 6·77. On comparing this result with that obtained by Dr. Shekleton, as recorded by Johnston and Sinclair, the true value of affording speedy relief, by the use of the forceps, will appear. In this report the total number of tedious and difficult cases is 514; of these 247 were allowed to deliver themselves unassisted, of whom 12 died, being at the rate of 1 in 20·58; and 168 were assisted by the forceps, of whom 6[a] died, being at the rate of 1 in 28; and 99 by the perforator, of whom 13 died, being at the rate of 1 in 7·61; and of the total number (514) of tedious and difficult cases 31 died, being at the rate of 1 in 16·58, as compared with 1 in 6·77 in Dr. Collins' report.

Inasmuch as the Reports of the Dublin Lying-in Hospital do not exactly correspond in their construction, a comparison of them is attended with much difficulty, and must always be open to criticism; but that which we have ourselves made, and which was originally published in our review of Sinclair and Johnston's report in November, 1858, is, we believe, founded on a just principle; and, with the corrections now made, is accurate in its details; certainly the comparison made by Dr. Murphy, as given in our extract, is wrong, both in details and in principle. He makes the number of births recorded by Dr. Collins stand for the number of women delivered, making no allowance for twins and triplets; where he got his other numbers we cannot tell; and, as we have already seen, he throws a doubt on the entire series of Dr. Collins' observations, by what he states as to the data from which the duration of labour was calculated. The heading in the table "Natural Labours above 24 Hours" is evidently a clerical error: but where he gets 324 cases, lasting above 24 hours, in Dr. Collins'

[a] Of these six deaths, three, at least—in which death arose from accidental causes scarlatina, pneumonia, and mental anxiety—might fairly be deducted, making the proportion one death in 56.

report, we cannot tell. Dr. Collins himself, states that of the 15,850 cases in which the duration of the labour was noted, 15,586 terminated within 24 hours, leaving 264 that exceeded this period—of which, as we have already shown, 54 were cases of complicated labour.

Then, again, Dr. Murphy places all deaths, after the use of the forceps, to the charge of this instrument, even where it was used subsequently to the occurrence of rupture of the uterus; and, by combining his strangely-selected numbers in a manner still more strange, he actually makes it appear a better practice to leave protracted cases to their own resources than to assist them with the forceps—the deaths in the unassisted cases being, he says, 1 in 16, and in the assisted 1 in 12·4. The conclusions drawn as to the deaths of the children are equally inaccurate; and we are very sure Dr. Murphy will find very few practical obstetricians who, at the present day, will agree with him in the following dictum.

"We have endeavoured to prove, from the fairest review of statistical evidence we can make, that in difficult labours, where so much judgment is required, there is no essential difference in the maternal mortality whether the forceps be used or not."

Dr. Murphy lends his countenance to the idea that vesico-vaginal fistula is, in most instances, if not in all, to be traced to the use of the forceps. This subject has been so ably handled by Dr. Sinclair, in a late number of our Journal[a] that we feel unwilling to enter on it. Suffice it to say, that he has proved that the frequency of the occurrence of this—of puerperal fever, and of the other complications of the puerperal state—diminishes in proportion to the frequency with which the forceps is used. We must, however, again allow Dr. Murphy to speak for himself:—

"With regard to vesico-vaginal fistula, it is difficult to trace this accident in all instances to the use of the forceps. When a forceps operation is described to us, we are seldom told that any mischief is the consequence. The splendour of success is very dazzling; and, while we admire the operation, we are too often left in the dark as to its effects. Nevertheless, we have been able to trace this accident clearly to the use of the forceps in several instances; while, on the other hand, *Dr. Collins records only one case of vesico-vaginal fistula in the whole of his report of* 16,654

[a] Vol. xxxii., p. 60.

cases, and that was a *case of perforation;* consequently this accident never occurred in those protracted cases which were delivered naturally. The principal cause of difficulty in Dr. Collins's cases was the large head of the male child forcing its way through a very osseous pelvis: the pressure on the soft parts must be very great, and, if fistula could be produced by great protraction of labour in cases that ultimately were delivered without assistance, it must have been an accident of frequent occurrence in these cases, the soft parts being so much compressed: but such did not happen, and therefore they afford a very favourable contrast to cases delivered by the forceps in nearly similar circumstances."

Before quitting this subject we must remark that it is quite true Dr. Collins only records one case of vesico-vaginal fistula; but he also records six cases where death arose from sloughing of the vagina; and, as Dr. Simpson has remarked, in but one of these did labour terminate within 24 hours, that is, in the proportion of 1 case of sloughing in 15,586, and 5 of the cases in labours exceeding 24 hours, or a proportion of 1 in 53 cases, which appears to us but slight encouragement to adopt Dr. Collins' rule of allowing the head to remain in the one position, compressing the soft parts of the mother for six hours before giving assistance—or even Dr. Murphy's more moderate one of four hours.

The remaining remarks of Dr. Murphy on the use of the forceps—the counselling to allow the head to remain stationary in the pelvis for four hours before its use, and that the ear should be felt before its application, and that the traction should be made with a waving motion—and his warnings as to the dangers which are consequent upon its employment, and the result to mother and child are not, for the most part, in accordance with the present state of obstetric science.

We contend that the art of midwifery is based upon a most scientific basis; that the practised accoucheur can tell, with unfailing accuracy, that the coming struggle will be a severe one; that the powers of the patient will be unnaturally taxed, and that he can, by a *timely* judicious interference, avert the dangers, and place both mother and child in a condition of safety. If the protraction arises from a disproportion between the soft parts of the mother and the child, from a failure of the maternal powers, or from malposition of the head, these can be ascertained with certainty at an early period of the labour; but whether the maternal powers can overcome these difficulties cannot by any means be determined. It soon becomes evident, however, that if the case be allowed to go

on unassisted, conditions will arise entailing danger, not only to the future comfort of the patient, but to her life, and to that of her offspring; and it is, we maintain, incumbent on the accoucheur, under such circumstances, to abridge the duration of the labour, and avert the impending danger. The accoucheur's duty is to preserve the child, not to wait for its death, and then to deliver by perforation. If the forceps could deliver the child at the onset of the difficulty it is *cæteris paribus* the duty of the accoucheur to relieve the woman of her sufferings and avoid the dangers arising from the pressure of the child on the soft parts. In estimating the dangers of the use of the forceps, it must not be lost sight of that it is not its proper and careful use that causes death, if death is the result of the exhaustion produced by the delay. When the labour ceases to be physiological, and becomes pathological, and the state of the os and the dimensions of the pelvis admit of the child being brought through by the forceps (not by the "forcible extraction" of Dr. Murphy), aided by the contractions of the uterus, no harm ever ensues, and the inflammation and ulceration of the neck of the womb and of the pelvis, lacerations of the perineum, and vesico-vaginal fistulæ are mere chimeras of minds warped by old prejudices; or if they occur, arise from too long a delay before the use of this instrument.

There are some other points, in reference to difficult labour, that we can only briefly notice—such as the question of turning, in certain cases, instead of resorting to craniotomy or other instrumental aid. Without going the length of those who assert that by the adoption of this proceeding craniotomy may be abolished from midwifery practice altogether, we have no hesitation in expressing our belief that it is a most important and valuable reform in midwifery practice, and one that, in a systematic treatise, should not be passed over in silence, however great may be the veneration of the author for the authorities under whom he himself studied. Another matter, more or less connected with this subject of difficult labour, that Dr. Murphy has not treated as it deserves, is the history, nature, and diagnosis of the obliquely ovate pelvis of Naegèle. Not a little light has been thrown on this subject by the labours of the modern school of midwifery in Dublin; and in our own pages[a] Dr. Sinclair has given a report of a case, the first, we believe, on record, where this condition has been recognized

[a] Vol. xx., p. 79.

during life, and one supplying the link in its history of which Dr. Murphy says we have no evidence, and for the want of which, he says, the deformity remains a problem to be solved.

We have now done with our fault-finding—a task imposed on us as well by our zeal for the honour of the modern school of midwifery in Dublin, as by our anxiety for the maintenance of correct principles. The remaining chapters will be found to fully justify the favourable opinion we have already expressed as to the general character of the book. Where so much is excellent it is difficult to specify particular examples. The five lectures devoted to the consideration of uterine hemorrhage constitute a most concise, elaborate and able treatise on the subject. They open with a review of the manner in which hemorrhages take place from other parts of the body, pointing out the circumstances uterine hemorrhages have in common, and those wherein they differ. Then an able, brief, and clear exposition of the structure of the placenta and of the utero-placental circulation is given; and, after collating the opinions of the most recent investigators, the author sums up as follows, laying down the principles that guide him in the treatment he recommends for the different varieties of hemorrhage:—

"On a question of so much difficulty, and one which has been so much misunderstood, we have preferred to give you the descriptions of the best and most careful observers, rather than our own—to adopt their language as being the least likely to be disputed. These quotations are sufficient to prove that there is a portion of the placenta in direct communication with the uterine vessels, which has been described by Weber as a rete of colossal capillaries, by John Hunter as a cavernous structure, and by Goodsir as a great cavity everywhere traversed and intersected by filamentous prolongations of the lining membrane of the uterine veins; that the maternal blood is impelled through innumerable uterine arteries into the great cavernous cavity of the placenta, and, having supplied the necessary nutriment to the fetal blood, flows back through the large oblique canals that communicate with, or are part of, the uterine veins; that these venous canals and the cavernous structure are composed of a tissue of extreme delicacy; and lastly, that there is no direct communication between this maternal circulation of the placenta and that going forward in the fetus. What, then, would be the effect if this vascular connection between the placenta and uterus were broken through?

"*Partial Separation of the Placenta.*—From the nature of this injury, the torn curling arteries might not pour out much blood (see Appendix.) Any hemorrhage must arise chiefly from the broken veins, and not,

recollect, from one, but *from both* of the divided extremities. There are thus two sources from which blood escapes: 1. The openings that communicate with the network of colossal capillaries, by which the cavernous structure is emptied of maternal blood, to be again filled by the uterine arteries. This may therefore be considered as arterial hemorrhage of the uterus through the placenta. 2. The venous orifices on the surface of the uterus. The maternal blood flows from both extremities of the divided veins; in the former instance in a direct current from the uterine arteries through the cavernous structure; in the latter by regurgitation from the veins of the uterus. You can understand, therefore, not only the possibility but the certainty of the fact which the late Dr. Hamilton stated many years ago—which Professor Simpson has since with so much ability confirmed, but which still remains an enigma to perplex some writers on the subject—that, when the placenta is partially detached from the uterus, blood flows from its denuded surface, and the exposed uterine veins (or sinuses, as they are called) are not the only sources of uterine hemorrhage. When the placenta is completely separated from the uterus, and its connection with these arteries broken off, you can also perceive that blood will no longer flow from the surface; and the only blood that can then be expressed from it, is the residue lodged in the cavernous structure of the placenta."

In discussing the treatment, Dr. Murphy is not content with laying down arbitrary rules, but refers constantly to the principles on which he acts, while his directions are clear, explicit, sound, and eminently practical. He looks upon the application of cold in uterine hemorrhage, as a general refrigerator, with great apprehension, and says it ought to be employed as a stimulant to the uterus, strict attention being given to support the action of the heart. "Astringents and styptics," he says, "have little power, but stimulants are almost indispensable." Dr. Murphy has, very properly, great confidence in the use of opium; and he states here, and in other parts of the work, the principles which should govern its administration. We extract the following conclusion:—

"In the use of opium, therefore, strict attention should be paid to the degree of hemorrhage, and its effect on uterine contractility. When the loss of blood is slight, or at least not sufficient to impair the tone of the uterus, a large dose of opium would be dangerous, lest it might act as a sedative, overcome the influence of the nerves, and cause the uterus to relax. When the loss is great, and followed by exhaustion of the uterus, then the very same quantity of the medicine will produce an opposite effect: it will act as a stimulant, and cause contraction of the uterus."

On the use of ergot of rye, he says:—

"When the nerves of the uterus have lost their natural irritability, and the uterus is in a state of atony, opium is the most efficient excitant to its action, because it then acts upon these nerves as a most powerful stimulant; but when the irritability is restored, or if it be only slightly impaired, it acts as a sedative, and may paralyse the uterus. Ergot of rye, on the contrary, is quite inefficient in nervous exhaustion of the uterus; because, so far from acting as a stimulant, it seems to have a sedative effect (at least upon the heart), while its specific action is obvious the moment that exhaustion is removed. Opium, therefore, is of the highest value in saving a patient from the consequences of extreme flooding—ergot of rye in preventing such hemorrhage from taking place. Both remedies may be used in the same case, but one can never supply the place of the other."

The consideration of electricity, direct irritation of the uterus, compression of the uterus, and transfusion, closes the 25th lecture. Accidental hemorrhage is somewhat briefly considered. The author condemns turning, as a rule, and prefers puncturing the membranes; the giving of ergot of rye, with, if necessary, opium, of which the quantity is to be increased in proportion to the exhaustion; and speaks rather favourably of the use of the electric current.

Placenta previa is more fully considered. The natural means of checking hemorrhage from placenta previa, and the effects of dilatation of the cervix and os uteri, on the source from which the blood flows, are very clearly and correctly given; and he arrives at the following conclusions:—

"The natural means, therefore, of checking unavoidable hemorrhage is the complete separation of the placenta from its attachment to the cervix of the uterus; because, by this means, all the uterine arteries are broken off from the placenta, and the veins are closed by the dilatation of the uterus, which is necessary to effect the separation. If we have rendered the designs of nature sufficiently intelligible, you can readily perceive why she so often fails in accomplishing her purpose, and why these hemorrhages are so dangerous. In order to effect the dilatation of the uterus, and carry out this intention, the pains must be vigorous and the contractile power of the uterus unimpaired; but, unfortunately in too many cases, this essential element is wanted."

The manner and extent of attachment of the placenta—the

symptoms and diagnosis are succinctly rendered. Respecting the treatment, Dr. Murphy considers it under two heads:—1. Cases where hemorrhage is only commencing; 2. Cases where the patient is in extreme exhaustion. In the treatment of the first class, he recommends compression of the placenta—that is, pressure from below, by plugging the vagina, and from above, by puncturing the membranes, and bringing the head down on it, and, at the same time, stimulating the contractions of the uterus; and, when it becomes possible, turning and delivering. In the second class, however, a different system must be pursued. Here the patient is in a state of extreme exhaustion; and Dr. Murphy narrates several instructive cases to show that immediate turning and delivery would be attended with fatal consequences. The following extract conveys, in a dogmatic form, his directions as to the treatment of such a case—directions that carry with them, in the main, our full concurrence; but here, again, we have to notice a total ignoring, on Dr. Murphy's part, of a modern improvement—we mean Dr. Barnes' suggestion—of separating the placenta from the cervical zone merely of the uterus—a practice that we believe to be, in many cases, preferable to its total separation.

"If it should unfortunately happen that you are called to a case of extreme exhaustion—if you find your patient almost pulseless, with cold extremities, cadaverous countenance, perhaps tossing herself about the bed, in the effort to breathe—we have no hesitation in telling you to remove the placenta at once; to plug the vagina immediately afterwards; to give her a large dose of laudanum (forty minims) in brandy; to support in every way the temperature of the surface; and, if you find the action of the uterus still feeble, you may try the electric current to promote its action. (We presume, of course, that the apparatus has been previously prepared for you.) But should the pulse be restored, and reaction at all take place, we think you will find that a full dose of ergot of rye will sufficiently answer the purpose. We do not ask you to remove the child even then, because we are very doubtful that any advantage is gained by doing so. The source of hemorrhage is not at the fundus, but in the cervix uteri, exactly where it is compressed by the head of the child on one side, and the plug at the other; which, it appears to us, will far better control any subsequent bleeding from the sinuses than the removal of the child from the cavity of the uterus. Besides, there is a double risk in such an operation: your patient may be unable even yet to bear the shock that we know it produces, notwithstanding the reaction and signs of amendment. It is also doubtful, as

we have stated, whether the sudden emptying of the uterus might not be attended with fatal consequences, when the pressure is suddenly taken off the great venous trunks in the abdomen, which are imperfectly filled with blood. It might be thought unnecessary to plug the vagina after the removal of the placenta, inasmuch as hemorrhage ceases on its separation. We advise it as a *precautionary* measure, to meet the possible contingency that hemorrhage may occur. There is no rule without its exception; and although in ninety-nine cases no flooding may follow, in the hundredth you may regret not having plugged the vagina."

In the chapter on post partum hemorrhages, flooding occurring during the third stage of labour is most ably treated of; but, when considering secondary hemorrhages, Dr. Murphy falls into his habitual error of neglecting the labours of the modern Dublin school; and while he discusses the subject briefly, and very insufficiently, he passes over in silence the very important essay on the subject by Dr. M'Clintock, published in our eleventh volume, a neglect shared by the equally valuable and learned essay by the same author on sudden death, a subject not touched on at all by Dr. Murphy.

We cannot, in the space at our command, do more than allude to the very excellent lectures on puerperal convulsions, rupture of the uterus, post partum inflammations, puerperal fever, and phlegmasia dolens, all of which will amply repay even the most experienced practitioner for a perusal; and, notwithstanding our criticisms, we must conclude as we have begun, by expressing our highest commendations of the general character of the work.

---

1. *Medical Climatology; or, A Topographical and Meteorological Description of the Localities Resorted to, in Winter and Summer, by Invalids of Various Classes, both at Home and Abroad.* By R. G. Scoresby Jackson, M.D., F.R.C.S.E., &c., &c. London: Churchill. 1862. 8vo, pp. 509.

2. *Bradshaw's Invalid's Companion to the Continent; comprising General and Medical Notices of the Principal Places of Resort; with Appended Observations on the Influence of Climate and Travelling, and Meteorological Tables.* By Edwin Lee, M.D., &c., &c. Second Edition. London: Adams. 1861. pp. 416.

3 *The Winter Climate of Menton; with Hints to Invalids Intending to Reside There.* By P. C. Price, F.R.C.S.E., &c., &c. London: Churchill. 1862. 12mo, pp. 79.

4. *A Notice of Menton; with Remarks on the Influence of Climate in Tuberculous Disease.* By Edwin Lee, M.D., &c., &c. London: Adams. Pamphlet. 12mo, pp. 43.

5. *Menton, Essai Climatologaque sur les differentes regions.* Par le Dr. J. F. Farina. Paris: Baillière et Fils. 1863. Fcap. 8vo, pp. 72.

6. *Mentone, The Riviera, Corsica, and Biarritz as Winter Climates.* By J. H. Bennet, M.D., &c. Second Edition. London: Churchill. 1862. Post 8vo, pp. 288.

7. *Nice et son Climat.* Par Edwin Lee, M.D., &c. Paris: Baillière et Fils. 1863. Fcap. 8vo, pp. 162.

8. *The Climate of South Devon, and its Influence upon Health, &c., &c.* By Thomas Shapter, M.D. Second Edition. London: Churchill. 1862.

The consideration of *climate* comes before the scientific physician under two distinct aspects, according to the influence which it exerts, either in causing or in curing disease. The former of these, however interesting and however important, we can at present take no account of. At one time it occupied much more of the attention of the British physician than the other, as is evident from the numerous and learned dissertations which have appeared on the subject, from that of Hippocrates downwards; but the work recommended to Sydenham by Dr. Brady has yet to be written—an account of "the force and influence of the atmosphere upon human bodies." Dr. Ransome's paper "On the Influence of Atmospheric Changes upon Disease," in the last number of the *Manchester Philosophical Transactions*, would form a suitable introduction to such a work; and the classical work of Sir Ranald Martin, which we noticed in our last volume, would form no small element in its composition.

Dr Jackson's book introduces us to the latter part of the subject—the effect of climate in *curing* disease.

There is a very considerable defect in this work at its very commencement—the absence of a table of contents; a rather serious omission, where the work extends to 16 chapters, and 509 pages, and which cannot be compensated by any index, however excellent. The first four chapters comprise a sketch of the causes of physical climate, the doctrine of hygienics, the nature and value of mineral waters, and a sketch of the diseases in which change of climate is commendable as a remedial agent.

The remarks on the causes of physical climate, although brief, are well worthy of perusal. We gladly observe the author passing by the old routine of recording the mean temperature, and the quantity of rain that falls in each locality, but dwelling on the fact that extremes of temperature, or even sudden transitions of not very extensive character, are amongst the most productive causes of disease. "When, therefore, we are contemplating a change of climate for the alleviation of bodily infirmities, it will be one of our chief aims to select a locality wherein vicissitudes of temperature are at a minimum. And it is important to know not only the mean annual temperature of places, but also that of the seasons, months, and days; for the average yearly temperature of any two places may be exactly alike, whilst that of their seasons may differ widely."

The chapter on change of climate as a remedial measure, commences by prudently insisting on the necessity for regarding this agent rather as a medium through which a cure may be wrought than as the direct instrument by which the improvement is to be effected. As Dr. Jackson expects his work to be perused by *non-professional* readers, his warning is very properly inserted, as many imagine that the *climate* once reached, the cure will surely follow.

The same theory is less figuratively enunciated by Dr. Lee, the entire of whose "remarks" consist in deducing authorities to prove that the "principal advantage which invalids derive from a winter's residence in a favourable climate consists in their being able to take daily and sufficient exercise in the open air." Even in its most extended sense we doubt much the soundness of this statement; and, although we cannot fully recognize what Simon terms the antitubercular power of an increased venosity of the blood as the consequence and effect of change to a warmer temperature, still we look upon climate as having essentially a most material influence for and against the development or progress of tubercle.

Change of climate has long been known and valued as a most useful therapeutic means, but until lately was considered as being within the reach of the opulent only; and therefore comparatively few physicians troubled themselves to investigate on what grounds sanitary influence could fairly be expected from it.

In the enumeration of the diseases in which change of climate is commendable, all chronic diseases and all the sequelæ of acute disorders are included by Dr. Jackson. We are disappointed in finding so small an amount of information on the subject of the various bronchial affections, and their sequelæ, although the subject of them is introduced by the assertion that they are amongst those to which change of climate is most beneficial. The author evidently hurries on to the consideration of *phthisis pulmonalis*, to which naturally he devotes the most consideration.

The influence of climate on phthisis pulmonalis is a subject upon which, in some of its various forms, the practical physician is now almost daily consulted—first, by those threatened with organic disease, and, secondly, by those in whom the lungs have already undergone some change of structure.

Dr. Jackson wisely insists that, in selecting a situation for a consumptive patient, the complications of the disorder must be first understood before a judicious choice can be made; and then passes on to consider in what stages of pulmonary consumption change of climate may be judiciously recommended. This question, so often agitated, he answers by claiming a broad margin for discretion, and then adding, that "perhaps, as a general rule, it would not be well to urge change of climate upon those persons in whom the disease has manifested itself rapidly—in whom, although but little of the lung may be implicated, there is a tendency to inflammatory symptoms upon the slightest provocation, and when the tuberculous deposit rapidly passes from the crude into the softened state." All practitioners, we presume, will agree that in such cases change of climate is not to be recommended; but we look for more direct and more useful information, at the present day, from authors who lay claim to such extensive experience as Drs. Jackson and Lee, than a mere repetition of what was so clearly laid down by Dr. James Johnson more than 30 years ago. From such authors we expect information as to the advisability, or otherwise, of change of climate in what we may term the accidental forms of phthisis; and, if it be advisable, in what form it should be undertaken, and what country selected, and, what is most important, the effect of such treatment

as evidenced by physical signs, as well as general symptoms, on the fibriniform product. There are also other very interesting points on which we naturally look for information in these works on medical climatology, but look in vain—such as the effect of climate in warding off consumption where hereditary tendency, or the occurrence of those diseases upon which it is known so often to follow, have rendered its occurrence more than probable; but after all Dr. Scoresby Jackson's work is what it aspires to be—a very good book of reference, whereby physicians may readily become acquainted with the predominating features of particular climates. Such a book has become necessary by the advance of medical science, which now treats the predisposing causes of disease as well as the actually formed malady—or, in the words of the author, "Preventive medicine is at length taking up a position commensurate with its value, and it is fostered by the remarkable facilities which now attend the traveller in his wanderings over every part of the world."

The last 12 chapters of Dr. Jackson's work are devoted to the consideration of the medical climatology of almost all the countries in which the English physician can possibly take interest. He considers, in detail, beside all the continent of Europe and the British isles, Algeria, the Cape of Good Hope, the islands in the Mediterranean, the West Indies, Egypt, &c., &c.; and the information given upon all these countries is both varied and extensive, and, what is more important, very accurate. Many circumstances, which at first seem trivial, but which to the traveller possess great importance—such as the form of clothing suitable to each country, diet, &c., &c., are fully but not diffusely considered. The chapter on Algeria we would specially recommend to the notice of our readers, as containing an amount of information not to be procured elsewhere, on the medical climatology of this region, which has deservedly obtained, of late, so much reputation in the medical treatment of chronic diseases of the lungs.

Dr. Edwin Lee's and Dr. Price's works will be found valuable as local guide-books. We believe Menton to be much over-rated as a winter residence for invalids; it is very subject to their great bane—sudden changes of temperature; and although considerably improved, it still lacks many of those comforts which our countrymen consider essential; but Dr. Bennet, who has himself derived much benefit from residing there during three winters, speaks very highly of it. His work not only gives a good account of the district, its

beauties, its climate, its geological formation, and vegetable and floral productions, but also much information likely to be useful both to patients about to go there and to their medical advisers. Dr. Bennet also gives an account of his attempts to find a still better winter residence than Menton, and of his failure to find one so suitable to the state of his own health.

We have scarcely allowed ourselves space for examination of the work on the climate of South Devon; and yet it is worthy of more than a passing notice. The author exhibits great industrial power, and great reflection upon all the materials which he has accumulated. The work is divided into eight chapters. The first considers in detail the climate of the South of Devon, and is illustrated by a series of tables setting forth the local indications of thermometers, attention being specially drawn to the indications of the wet-bulb thermometer, barometers, rain-gauges, &c., &c. These investigations, conducted principally at Exeter, extend over a very long period; for instance, we have the calculation of temperature for 30 years; of the highest and lowest range of the barometer extending over 40 years; and the fall of rain from 1817 to 1860. The general position, physiognomy of the district, &c., &c., are considered; and the chapter ends with a comparison of the climate of South Devon with that of London and other places.

Recognizing the axiom, that on land the temperature mainly depends upon the nature of the soil and its products, its habitual moisture or dryness, Chapter II. is employed on the geology and hydrology of the district, and contains much valuable information, and would form a perfect guide to even a practical geologist through this classical district—although the author modestly styles his description "a mere sketch illustrative of the main object of the book." It is accompanied by a very graphic map.

Chapter III. considers in detail the principal island and sea coast towns of South Devon.

Chapter IV., its natural productions.

Chapter V., its civil and economical history.

Chapter VI., its vital statistics.

Chapter VII. extends over nearly 100 pages, and gives a very full and most interesting account of the diseases of South Devon, commencing with an account of its epidemics. The record of those within Dr. Shapter's own experience even is of great value.

In 1825 we find that inflammation of the serous membranes was exceedingly prevalent, and that peritonitis in its severest forms was

of common occurrence. This is a most rare form for epidemic disease to assume, unless connected with the puerperal state, which it appears not to have been. The various epidemics of cholera, influenza, small-pox, typhus fever, diphtheria, &c., &c., are all more or less carefully recorded. Among the individual cases alluded to are several of which we would gladly read the details—such as cases of embolism, occurring in the years 1844 and 1853, when the disease was comparatively unknown, and two cases of pneumopericardium which appear to have been idiopathic. When we meet with an author of Dr. Shapter's experience and judgment we naturally look for his observation on that *vexata quæstio*, the change of type of disease; and although the following paragraph contains nothing absolutely new, still we are anxious to record it, as forming a connecting link between the two periods of the *mild* as contradistinguished from that of the *heroic* medical treatment:—

"The general aspect or type of disease has, within my own observation, partaken of two very separate and distinct characters. During the few years immediately preceding 1828, the tendency of disease was to be inflammatory, having a sthenic or phlogistic character. The serous membranes were then very prone to become the seat of active disorder; thus cases not unfrequently presented themselves of pleuritis, peritonitis, and, amongst children, of hydrocephalus, all exhibiting a type of disease requiring the most prompt and occasionally persevering phlogistic treatment. Since that period, however, the aspect of disease has materially changed. It has become essentially adynamic or asthenic, while diseases of serous membranes have given place almost entirely to those affecting parenchymatous structure, or the mucous membranes; and these have required a medical treatment rather mild than heroic: experience soon showed that the type of disease had changed, and that the method of cure previously requisite was now anything but applicable. In fact, while thirty years ago, diseases generally, not only bore, but required free evacuation by bloodletting, aperients, &c., latterly this method of treatment has not only been contra-indicated, but would, if adopted, have been promptly followed by fatal results. Of this occasional alteration in the type of disease an illustration may be offered, which is not only interesting in itself, but bears testimony to that which prevailed seventy years ago, being then somewhat of the same character as that now prevailing. My friend and preceptor, the late Mr. Benjamin Johnson, surgeon, of Exeter, a man remarkable for sagacity and powers of observation, whilst bleeding a patient freely in 1820, observed to Mr. Woodman, then his pupil, now a medical practitioner in this city, that 'if one had bled thus thirty years ago, every patient would have died.'"

In Chapter VIII. is considered the climate of South Devon in reference to its general effects in disease. In one point of view this is the practical chapter of the work. The physician wishes to know what are the diseased conditions which will be cured or remedied by a residence in South Devon. The disorders which Dr. Shapter considers most likely to derive benefit from Devonshire climate are especially:—1. That irritable state of the lungs which precedes the development of consumption, and which Sir James Clarke so minutely described under the title of tubercular cachexia. 2. The inflammatory or gastritic form of dyspepsia, of the symptoms of which a very excellent *resumé* will be found. 3. Those peculiar forms of specific constitutional decline which, occurring in the middle period of life, Sir Henry Halford termed "climacteric disease," but which are also found in early life attendant upon a too rapid growth, and occasionally in more advanced years. In these cases the climate of Devonshire proves of the most essential service. Very valuable information will be found as to its effects on various other diseases.

We have thus concluded the pleasing task of giving a very full analysis of Dr. Shapter's volume, which we consider to be a very valuable addition to our standard literature of climatology. Limited in its object, it almost completely attains to it. And yet "the climate of the South of Devon, and its influence upon health," is no trivial subject for investigation. *Local* histories, no matter what their immediate subject may be, are of all the most valuable; they are, in general, most accurate, and by far the most interesting. We know of no book which, as far as its scope reaches, has ever obtained the deserved admiration with which *The Parochial History of Selborne* is to this day viewed; but such works as Dr. Shapter's, besides the immediate information which they convey upon any required point in the natural history, or physical condition, or diseases of the district, are of the most essential service, as affording the real ground-work upon which, mainly, that structure will eventually be built—the knowledge of the causes which affect the prolongation of human life.

The Preventible Causes of Epidemic Disease. By W. J. Cox, M.R.C.S., &c., &c. Dublin: Falconer. 1862. 8vo. pp. 24.

This able essay, by Mr. Cox, is well calculated to arouse attention

to the subject of which it treats, and we should be glad to hear of its having a large circulation amongst all classes of society. The preventible causes of disease are arranged into two classes: first, those of a physical, and second, those of a social or moral origin. Under the first head are considered, over-crowding, defective drainage and ventilation, the use of foul water, and privation of solar light. Under the second, intemperance, filth, neglect of infantile life, and unhealthy occupations. Many striking examples of the influence of these causes are given, and appropriate remedies are suggested; and we think that Mr. Cox has, by the publication of this pamphlet, faithfully performed one of the most important duties that could devolve on him as medical officer to the Sodbury Union.

Familiar Letters on the Diseases of Children, addressed to a Young Practitioner. By James Bower Harrison, M.D., &c. London: Churchill. 1862. Fcap. 8vo, pp. 197.

These letters are supposed to be written by a senior practitioner to a young friend, as it is imagined that this form of composition may allow a degree of freedom which otherwise might be out of place, and the author's object has been, he says, not to offer original matter, but to endeavour to supply what is useful and practical.

There is a certain *tactus eruditus* which distinguishes the experienced practitioner, a *savoir faire*, the want of which is, as we see daily, the cause of the failure of many very learned and scientific physicians. The great object of Dr. Harrison's book is to teach this; and, so far as it can be taught by books, he has well accomplished his purpose.

There are many very valuable practical suggestions throughout the book; but the author, whose name is already well known to the readers of this Journal by his contributions to its pages, himself acknowledges in the preface that the work is not to be regarded as aiming at being a *complete* treatise on the diseases of children, and we think that, in the desire to avoid what he calls "*hair splitting*," Dr. Harrison has erred greatly by falling into the opposite extreme, and we regret to find him speak disparagingly of the attempts of physicians to distinguish the minuter variations of disease.

PART III.

MEDICAL MISCELLANY.

Reports, Retrospects, and Scientific Intelligence.

REPORT ON PSYCHOLOGICAL MEDICINE AND DISEASES OF THE NERVOUS SYSTEM.

(*Continued from Vol.* xxxiv., *p.* 438.)

MANIA.

Mania alternating with Melancholia.—Annales Medico Psychologiques.

M. Delaye proposes to designate this form of mental alienation "Folie à formes alternes."—By Willes it was named "Mania alternating with melancholia;" by Esquirol and others, "Follie intermittente;" "Folie a double forme," by Baillarger; "Folie cerculaire," by Falret; "Folie periodique," by Morel. This affection, which has exercised the ingenuity of psychologists in inventing names, has been the subject of special study by M. Delaye.

He has come to the following conclusions:—

1st. There exists a form of insanity for which the designation Folie à formes alternes is proposed. 2nd. It is characterized by the existence of two distinct periods, which may alternate, with or without intermission. 3rd. These periods present two conditions diametrically opposite to each other. 4th. Each of these periods, or stages, has an ascending and descending course. 5th. The disease is of frequent occurrence. 6th. In the expansive period among other symptoms are erotomania in all its degrees; a disposition to vilify, and a tendency to acts which simulate swindling: in the period of melancholic depression, the ideas which predominate are those of suicide. Folie à formes alternes is a slow disease, and, so to speak, progressive. 8th. The augury is to the last degree unfavourable as to the termination of the disease. 9th. Like the majority of mental maladies a special cause cannot be assigned. 10th. Although it

presents in certain cases, and at the acme of intensity of its period, the characters of monomania, folie à formes alternes is a reasoning madness, or without delirium; with respect to the nature of the disease, it is a lesion of the cerebral functions. 11th. The knowledge of this affection is most important in a medico-legal point of view. It renders persons irresponsible for their acts, and takes away moral liberty during the morbid periods.

In the interval they should be amenable to the law, with, however, attenuating circumstances.

Homicidal Mania.—Under this title Dr. Yellowlees, Assist. Phys. to the Edinburgh Asylum, communicates to the *Edinburgh Medical Journal* for August last, the biography of, he says, the most interesting patient he has ever known; and appends some physiological and medico-legal comments of great value, which we extract with the leading features of the case:—

"William Smith was for more than twenty years the most remarkable and most dangerous inmate of the Royal Edinburgh Asylum; the story of his life is worth telling for its own sake; but yet more so for its physiological interest, and for its bearings on some very important and much debated questions in legal medicine.

"Smith was the son of a joiner in Bristo Port, Edinburgh, and was born about the end of last century. He followed his father's occupation, served his apprenticeship in his father's workshop, and in course of time assisted him in carrying on the business.

"For some reason or other, young Smith was led to turn his attention to a special department of the trade, and ere long his ingenuity and skill as a workman procured for him some local reputation as a printers' joiner.

"From working among printing presses, type cases, and printing frames, Smith conceived the bold idea of becoming a printer himself, and not a printer alone, but author, printer, and publisher too. He had already attempted authorship, and had produced some doggerel rhymes on various subjects, but you may imagine the difficulties with which he had to contend in carrying out his plan; yet in spite of the delay in making his printing press, in spite of his ignorance of the art of printing, in spite of the expense of types and paper in those days, in spite of his inexperience as an author, and his obscurity as a publisher, the young joiner struggled on unwearied and undaunted; his friend Austin, a wood-engraver, furnished him with illustrations, and at length, about the year 1820—twelve years before the first number of *Chambers's Journal*—there issued from the humble press at No. 3, Bristo Port, his first illustrated sheet, price one half-penny—the earliest herald of that wonderful illustrated cheap literature which educates and blesses our land to-day.

"The attractions of literature appear to have increased in the eyes of the young author, and to have induced him to choose a more intellectual occupation, and one which would leave him greater leisure to devote to his literary labours; for we find him after a few years forsaking his bench and commencing a school in the Cross-causeway; he taught 'the three R's' and book-keeping, and was for about seven years a laborious and successful teacher. He gave much attention to music also, frequently officiated as precentor in Greyfriars' Church, and published a collection of psalm tunes, with instructions in the theory and practice of psalmody.

"During all these years, as well as subsequently, he continued to publish, at short intervals, songs, stories, biographies, humorous extracts from books, notices of eminent men, witty dialogues, and poetry in all kinds of measures, and on all kinds of subjects—forming a large and very miscellaneous collection.

"But with the success there came also its invariable alloy; for no sooner did Willie begin to realize his hopes of becoming a publisher than he began to experience the annoyances, the malevolence, and the persecution which followed him, as he believed, throughout the rest of his life.

"His grievances seem to have begun in the nickname of "Whisker Willie," given him very likely by his own scholars, on account of the unusual quantity of hair he wore on the face. He was much annoyed when this name was shouted after him on the street; and at length summoned before the Police Court a person who had thus provoked him. The magistrate dismissed the case as frivolous, or at least did not decide as Willie had expected, which of course confirmed his belief that he was persecuted, and was the occasion of the first public manifestation of his insanity; for soon afterwards, while the magistrate was officiating as an elder on a sacramental occasion in Greyfriars' Church, Smith stood up in the midst of the congregation and assailed him with reproach and reproof for his partiality, hypocrisy, and unjust judgment.

"In consequence of this conduct, a warrant was issued for his apprehension, and he was confined, at first in the police cells, and then for ten days in the old 'Lock-up,' as it was called, which is frequently and emphatically stigmatized in his writings as very remarkable for its filthiness, and for the number and size of the parasites which infested it; while here his insanity was recognized, and he was then sent to the West-Kirk Bedlam. There, notwithstanding all the care of his attendants, he obtained and kept secreted about his person a sharp dagger, made by grinding a triangular file to a point, with which 'he was going to revenge himself, but on nobody in particular.' From the Bedlam he was sent to one of the private asylums at Musselburgh; but his stay here must have been very short, as we find him soon afterwards opening a shop as a bookseller and publisher in Edinburgh.

"Smith's old notoriety and old nickname still clung to him however; and the latter was now aggravated into 'Daft Whisker Willie,' in consequence of his residence in the asylum. His former ideas as to malevolence and persecution returned in full force; indeed, they seem never to have been entirely absent, but only in abeyance for a time, and he was constantly summoning persons to the Police Court for trivial injuries or imaginary wrongs.

"These cases were either put aside as frivolous or decided against the complainant; this of course confirmed or aggravated his notions as to the persecution he endured, and made him yet more impatient of the nicknames or mischief which the children of the district freely indulged in towards him.

"In 1836, or thereabouts, he removed from Nicolson-street to Smith's-court, Cross-causeway, and worked chiefly as a joiner and toy-wright.

"Change of residence did little to mitigate his annoyances; he was still an occasional complainant at the Court, but with as little justice as formerly, and the idea of personally exacting the vengeance which the law denied him as justice, became uppermost in his mind; he began to collect swords, fire-arms, and similar weapons in his house, apparently without any definite object or idea, except the vague one of revenge. He said 'that if he could just get blood shed he would be satisfied, but that he must kill somebody.'

"Once more, and for the last time, we find him a complainant at the Sheriff-Court in 1839; but this case also was dismissed, and he now ceased to seek or expect justice at the hands of the authorities. His indignation settled itself chiefly on Sheriff Tait, whom he blamed above all others for the oppression and injustice to which he was subjected.

"The Sheriff was far from being the only object of his hatred and revenge; he detested and vowed vengeance upon all in authority, but especially upon the police force, the members of which he regarded as his bitterest enemies. Yet he seemed fully aware—and this secret consciousness of their condition is often seen in the insane—that something in his own behaviour did or might require their interference, for he began to fortify his house as if to resist their entrance. He had a sliding panel in the door, by which he could see or speak to any one without opening it, and a contrivance for barricading it, so that it could not be forced open; he had also a long spear with which to defend the entrance, and fire-arms which were always kept loaded.

"He was committed to the prison of Edinburgh as a dangerous lunatic in December, 1840. In March 1841, he was removed to the lunatic wards of the West-Kirk Workhouse, under the idea that he could be safely confined and cared for there; but this idea was soon dispelled, for before two months were over he murderously assaulted Dr. Deas, the medical officer of the workhouse, at his professional visit. On the

doctor's entrance, Smith spoke to him in his usual friendly manner; but, when he was about to leave the ward, suddenly attacked him with a shoemaker's knife which he had procured; he chased him down stairs, weapon in hand, wounded him slightly in the back, and it was only his accidentally stumbling, in his eagerness to strike another blow, that saved the doctor's life.

"He was now removed to Morningside Asylum, where he was treated by Dr. Mackinnon, the then superintendent, with much consideration and kindness. He was put under no personal restraint, and was granted as much freedom within the walls as was consistent with his safe custody. He obtained facilities for writing a more detailed history of his case, his taste for music was encouraged, and he was allowed to conduct the psalmody at morning prayers.

"At first this treatment was apparently beneficial. Although his belief that he was the victim of persecution and injustice was unchanged; and although he daily vowed vengeance on those who were the authors of his wrongs, he used neither threats nor violence to the Asylum officials.

"After about a year's confinement, however, he manifested his belief that they also were implicated in the oppression he had endured, and began to threaten vengeance of the direst kind; these threats were directed chiefly against Dr. Mackinnon and his assistant, both of whom he declared he would murder. Additional precautions were therefore used, and he was more closely watched than formerly; but in spite of this vigilance he managed one day to pick up in the grounds a pointed rod of iron, which had apparently served as the spindle of a spinning-wheel, and had probably been turned up by the plough-share. Recognizing its fitness for his purpose, he concealed it about his person, sharpened the point in secret, wrapped a strip of a blanket round the other end of it for a handle, and then kept this formidable dagger in various hiding-places for no less than three months—as he himself subsequently confessed—deliberately waiting till he could get an opportunity to use it effectually. This opportunity at length offered itself in June, 1842, when Dr. Mackinnon and his assistant entered the ward one morning in the accidental absence of the attendant. Smith at once embraced it, and, without the slightest warning, suddenly sprang on the doctor, when his back was turned, and stabbed him repeatedly with the dagger. When the assistant-physician, Dr. Douglas, rushed forward to his help, Smith attacked him in the same manner, and wounded him in several places, striking so fiercely that the note-book which he was carrying was pierced through by one of the blows. The attendant, hearing the noise, hastened to the ward, when Smith 'ran into his room, threw the weapon out of the window, and resigned himself to his fate, fully believing that he had killed his victims, and that his own life must pay the penalty of his crime.'

"Fortunately, none of the wounds were dangerous, and both the doctors recovered to care for the man who had well-nigh murdered them.

"This assault was only the manifestation of a revenge and blood-thirstiness which had long been slumbering; even at the time of admission the same fierce desire for blood possessed him; and he often told afterwards that many a time when Dr. Mackinnon was conducting morning prayers, and he was sitting near him as precentor, he 'could scarcely keep from rising and braining the —— with the chair he was sitting on.' He always gloried in this murderous attack, and only lamented that he had not been more successful.

"Increased precautions were now taken; but in spite of all he made numerous attacks on his attendants, another of which we quote, as it shows well the deliberateness and cunning with which his plans were made. While walking in the airing court, in 1854, he picked up, quite carelessly, some cuttings of lead, which had been allowed to fall there by workmen who were repairing the roof; these scraps he carefully secreted, then tore away a large piece of lead from the water-closet, and kneaded the whole into a heavy ball; this ball he enclosed in a network of strings, shoe-laces, strips of handkerchiefs, &c., and fastened it loosely to the end of a short stick—thus forming a heavy life-preserver. The secret fabrication of this weapon must have occupied him for months, for all was done in spite of the closest vigilance; and we can imagine how he lightened his anxiety in constructing it, by glorying in the anticipation of the bloody vengeance it was to procure. When the weapon was ready for use, he waited until it was the turn of a certain attendant whom he specially disliked, to make the night visit. When this night arrived, Willie stationed himself behind the door of his room, and quietly waited for his entrance; when the attendant was opening the door, Willie suddenly stopped it with his foot, so as to prevent it from opening further, and the man naturally put in his head to see what was holding it; this was exactly what Willie had calculated on, and he bestowed on the instant a murderous blow with his weapon. The man was severely injured, and a large piece of the scalp was detached, but he was still able to struggle with Smith, and had overpowered him even before the noise had brought others to his help.

"Smith was now constantly confined to his room, except for an hour daily, which he spent in the airing court, under charge of one or two attendants. He was as querulous, irritable, and dangerous as ever, but spent a great deal of time in writing to the Sheriff and others, an account of his 'seven new inventions,' and offering half of the profits to any one who would liberate him. These new inventions included the discovery of perpetual motion, and other schemes equally extravagant; they constitute the first very obvious manifestation of intellectual insanity, supervening on the moral perversions he had laboured under so long.

"On the appointment of a new physician to the Asylum in 1846, Willie confidently hoped to obtain justice and liberty. He wrote, for Dr. Skae, a very full account of his life and grievances, described with much ingenious colouring his murderous attacks on his former medical attendants, and said that he would give the new doctor a definite period to judge of his case, and make up his mind about it, before pronouncing his curse upon him.

"When he found that he was not to be liberated, his indignation knew no bounds, and he gave notice that on the twelfth day of the following month he would kill one of his attendants.

"In consequence of this threat, and the terror which it inspired, in consequence too of the perseverance, cunning, and ferocity which it was known he would use to fulfil his purpose, it became necessary, for the first time, to have recourse to personal restraint.

"In the beginning of 1849, restraint was discontinued, except when he was out walking; but mentally he was unchanged, and the same precautions and vigilance were still required. The last quotation from the case-book sufficiently describes his condition in 1850 and 1851, while in 1852 he is said to be, '*if possible*, more than ever full of murderous threats;' and in 1853, the following entry occurs:—'This day, upon his attendant going into his room, in order to take him out for an airing, he suddenly threw himself forward and tried to grip him by the throat; fortunately, he was secured before he could accomplish his design. In the scuffle a spoon, sharpened at the handle, fell from his bosom. Doubtless, had he succeeded in keeping down the attendant, he would have at once proceeded to dig out his eyes, a threat which he has of late repeatedly uttered.'

"A favourite amusement with him about this period, and one which illustrates well his love for cruelty and murder, was to entice mice into his room, by leaving some of his food near a hole in the corner; he prevented their escape by closing the hole, killed them by tearing them into quarters with his fingers, and had the pieces arranged in a row in the morning to show his attendants how he would treat his enemies if he could.

"In the following year, 1854, he made another murderous attack on an attendant with a weapon similar to the life-preserver formerly mentioned. He had made this one in the same way—a stone which he had picked on the airing ground, in spite of the constant presence of attendants, serving instead of lead. When the weapon was ready for use, and a proper occasion offered, he purposely left some bread on the floor of his room that he might get a better blow at the attendant as he stooped to pick it up. The attendant, however, was on his guard, and drew back in time to save his head, although not his shoulder; a sharp struggle ensued, which was happily overheard by the night-watch, and, with his assistance, Willie was secured.

"It is scarcely possible to find language strong enough to describe the bloodthirsty passion which possessed the man, the devilish ingenuity, deliberateness, and determination with which all his attacks were made, or the fiendish delight with which he gloried in relating them, and revelled in the thought of a merciless and bloody success.

"In 1855 his health began to give way, but he still indulged in fierce threatenings far beyond his power of execution. In this year restraint was finally discontinued, and he was taken regularly, under special charge of an attendant, to the chapel and the weekly ball—privileges which he highly valued. He spent his time chiefly in writing songs, anthems, and choruses, which were the names he gave to miserable attempts at music with original words attached. Upon these he set great value, delighted to rehearse them to the medical officers, and spent many a solitary hour in transcribing them.

"Occasionally days of murderous vows and threatenings varied the monotony of his life; but they were not quite so frequent as they used to be, probably because he had found other occupations now.

"Years passed away thus; and they may be described in a single sentence:—Gradual mental deterioration, with persistent and unquenchable desire for revenge and blood.

"In the end of 1858, he had a slight apoplectic attack, but its effects were very transient and did not alter his mental condition.

"About this time, 1859, Willie was offered the privilege of a visit to Edinburgh. For almost twenty years he had never been beyond the grounds of the Asylum, and had spent most of the time in his solitary room. He was, from old age and increasing dementia, by no means the formidable man he once had been; and it seemed that this indulgence might, with proper precautions, be safely granted, and might add a little happiness to his lonely life. He was much elated at the prospect, and very grateful. He selected the night-watch as the person who should accompany him, and at the time appointed he was ready, dressed in the best suit the attendants could procure. He went to the door full of eager anticipation; but as soon as he saw the carriage waiting for him, and understood that he was not to walk through the town as he had intended, he turned and went straight back to his room, threw aside the new suit, and absolutely refused to go.

"He had evidently intended mischief, and was so mortified at his purpose being thus thwarted under the guise of special kindness, that no persuasion could induce him to change his resolution.

"He still continued to attend the ball regularly, under special charge of an attendant, and was present, by his own desire, at a meeting of the glee club. He did not join in the singing, but said that 'Smith, the critic and victor of singing, could sing them all blind and deaf.'

"In the autumn of 1860 his bodily health began to fail very much;

and, although he recruited a good deal in summer, he was never quite free from bronchitis and asthma. The next winter brought with it great aggravation of his illness; but throughout it all his mental condition remained unchanged, and he might have been seen gasping his vows of murder or his loyal anthems during a paroxysm of dyspnea. It was not in his nature to yield.

"But nature herself yielded at last, and he died, about the age of 73, on the 3rd of December, 1861.

"The autopsy revealed the ordinary signs and sequelæ of chronic bronchitis, as well as many evidences of very chronic brain disease.

"The brain seemed somewhat atrophied and smaller than usual, the cerebrum weighing but 35½ ounces, and the cerebellum 5½ ounces. The arachnoid generally was opaque and slightly thickened, but its sac did not contain more than a drachm or so of fluid. The lateral ventricles contained very little fluid, too little to be collected and measured. There were found three very distinct softenings; one about the size of a filbert in the anterior extremity of the right corpus striatum, another of about equal size under the floor of the posterior cornu of the right lateral ventricle, and the third about the size of a field-bean in the centre of the left optic thalamus. They all contained similar semi-fluid matter, of a dirty, greyish-white colour, and were all apparently of old standing. All the arteries of the brain were more or less atheromatous.

"The softenings in the corpus striatum and the atheromatous arteries are well seen in the preparation. The appearance of the softened matter, under the microscope, was just what is usually seen in old softenings—atheromatous vessels, compound granular cells, abundance of fatty granules, molecular matter, and fragments of disintegrated nerve structure.

"Even the skull itself was not exempt from the consequences of this protracted disease of the brain, for it was found to exhibit a pathological change, or perhaps I should rather call it a physiological accommodation, which has never, so far as I know, been certainly observed before. On comparing the cast of the head, taken after death, with another taken about seventeen years before, there was found to be a very remarkable difference between them, not in form only, but also in size, the head having become less during these seventeen years by an amount equal to at least 12 cubic inches.

"A case so singular and so suggestive requires very little in the way of comment, and the remarks suggested by it are put by Dr. Yellowlees, for the sake of brevity and distinctness, under three several heads—physiological, medico-mental, and medico-legal.

"1. *Physiological.*—This remarkable alteration in the size and form of the cranium during adult life deserves special notice. It is generally believed that all alterations in the brain substance which imply diminution of its bulk, are compensated for by the effusion of fluid, so that the entire

volume of the cranial contents is always the same. From this case it would seem that this effused fluid, which we can be very sure once existed in Smith's cranium, may slowly disappear, and the osseous case gradually accommodate itself to the diminished size of the organ it contains. The possibility of such changes in the cranium has usually been admitted, but the author is not aware of any other case where it has been actually observed. The long term of years that must elapse, and the small probability of correct measurements having been taken at first, of course render opportunities for such observations exceedingly rare.

"Dr. Yellowlees gives a series of outlines showing the shape and size of the two casts. The change in form is very marked. It affects, of course, the roof or arch of the skull, the solid base remaining unchanged. It is chiefly obvious in the shortening of the distance between the root of the nose and the occipital spine, and in the change of the corresponding arch. This diameter is nearly three quarters of an inch shorter in the more recent cast; while its arch is correspondingly smaller, and exhibits marked flattening or subsidence in the frontal and occipital regions, with comparatively little change in its parietal segment.

"2. *Medico-Mental.*—We may hope that the progress of cerebral pathology will gradually enable us more frequently to associate certain mental conditions with the occurrence of cerebral disease of certain kinds, or affecting certain particular parts. But as yet this is very often impossible, and we cannot, for example, establish any distinct or necessary connexion between the cerebral softenings and the insanity in this case, however strongly we may believe in its existence. We must therefore be content to look at Smith's insanity from the psychological rather than from the pathological side.

"Homicidal insanity has, nosologically, at least, three distinct forms. The first is *Homicidal Monomania*, properly so called, and consists simply in a morbid impulse to shed blood, for which no reason or motive can be assigned. The impulse may be sudden and irresistible, urging the patient at once to the perpetration of some horrible deed, or it may have the form of a more or less constant and almost irresistible desire to kill. The patient is otherwise apparently sane, but can give no explanation of the feeling, and often bitterly laments it. A convenient object or opportunity stimulates the morbid desire, and its recurrence at different periods in the life of the individual is not infrequent. Besides this desire or impulse, no other sign of insanity can be detected. It is a case of purely emotional monomania—as purely emotional, at least, as monomania can ever be—for surely the mere fact that a motiveless impulse takes possession of a man, and irresistibly urges him to commit acts from which his whole nature would formerly have revolted, or revolts even now, proves of itself that the mind is unsound and weak, by the very absence

of that self-control which in a healthy mind would correct, or restrain, or banish such morbid thoughts.

"As an illustration of the sudden irresistible impulsive form of this disease, Dr. Yellowlees quotes the first of a very valuable series of cases published by Dr. Thomson, of the General Prison, Perth, in the *Edinburgh Medical Journal* for June, 1862. It is the case of a man who murdered his own son by stabbing him with a table-fork with which the child was playing. No premonitory symptoms were known; he became at once intelligent after the act, and under bitter remorse exclaimed, 'I was impelled by the devil.' Nearly seventeen years after this attack, the homicidal impulse returned, the patient begged to be secluded from the others, and entreated the warder to shut the door of a fellow patient's room, 'for, when passing, he felt himself strongly tempted to rush in and murder him.' This attack lasted about a week, at the end of which time he said he might now safely be allowed to go about as usual.

"As an illustration of the almost constant and almost irresistible desire to kill, the case of a woman who came to the Asylum some time ago, along with her husband, to consult Dr. Skae, may be mentioned. She said that every forenoon, as soon as her household work was over, and she had nothing to occupy her attention, she was seized with an almost irresistible desire to murder her children. She lamented the horrible feeling, and could in no way explain it, for she loved them tenderly, but was obliged daily to leave them in the house and walk up and down before the door till her husband returned from his work, lest the murderous impulse should prove too strong for her if she remained beside them.

"The second form in which homicidal insanity shows itself to the alieniste is that of *Homicidal Impulses occurring in Melancholia.* This form is allied to the last, but quite distinct from it. There is insanity *already existing* in the form of melancholia, and the homicidal impulse is but an intercurrent phase of it. Illustrations of this type of the disease are found in cases where a despairing mother murders her children, that they may reach heaven in peace, and may never become hopeless and wretched like her; or where a husband kills his wife, and then himself, that they may both be delivered from the gloom and misery with which his melancholy has enveloped their home. It is in this class of cases that homicide and suicide are so often associated; and the homicidal melancholiac has even been prompted to the deed by the hope of being executed as a criminal, and so delivered from the life which he loathes.

"The third nosological form of homicidal insanity is *Homicidal Mania*, strictly so called, where insanity already exists in the form of mania, and where delusion of some kind has occasioned or prompted the murderous desire or deed. The motive or object may be of the most inadequate or insane kind, but it fully justifies the patient in his own eyes, however

frivolous it may seem to others, or however insufficient to justify murder, even had the delusion been true.

"Illustrations of this form of the disease are not infrequent. In the Perth Asylum there was, very recently, a patient who believed that another of the inmates was continually annoying him by mesmerism, and, under the influence of this delusion, he one day assaulted his tormentor so fiercely, that the man died from the injuries he received. And, in the Morningside Asylum, there was lately a patient who almost murdered his son, under the belief that God wished to prove his faith as he did Abraham's of old.

"The murderer may imagine, like a patient at present in Morningside, that she is the messenger of Jehovah, and that the divine glory demands a sacrifice; or, like the subject of the present sketch, he may insanely magnify trivial annoyances into grievous wrongs, which can only be wiped out with blood.

"The author believes these three *nosological* varieties include all the cases of homicidal insanity; but, of course, the classification is not absolute, and the varieties may merge into each other. It would be easy to multiply illustrations, and to quote cases already published, but it is unnecessary, and time forbids.

"In the case of Smith, the homicidal impulses, which were so fierce and persistent, were only the ultimate and farthest development of what was at first nothing more than justifiable displeasure at real annoyances. The natural 'touchiness' of temper which could not bear even a nickname, and summoned a man to the police court for shouting it, can scarcely be regarded in any sense as insanity; but the injustice with which he thought the case was dismissed, and the consequent increase of his annoyances, soon aggravated his irritability into insanity of the most dangerous kind—a mania which was continually thirsting for revenge, and deemed no vengeance, however bloody or cruel, a sufficient satisfaction for the wrongs he believed he had endured. Yet his numberless homicidal attempts were so obviously the result of a deliberate intention to murder, and were planned with such care and acutenes, that, if he had unhappily succeeded in any of his earlier attempts, and had been brought to the bar as a criminal, Dr. Yellowlees thinks it very unlikely that any ordinary jury would have considered him insane.

"3. *Medico-Legal.*—In regard to cases of this nature, the medical jurist is in the position of a judge as well as of a physician. He therefore cares little for nosological distinctions like the above, and inquires rather as to the motives for the act, the person's knowledge of what he was doing at the time it was committed, the existence of other proofs of insanity, and the degree of self-control which the accused was able at the time to exercise—he is aware that there may be an avowed motive, careful premeditation and planning of the deed, a perfect knowledge of

its criminality and of its legal consequences, and yet that the murderer may be insane and not deserving of death. The essential questions in his eyes are the existence of other unquestionable proofs of insanity, and whether the person had at the moment such consciousness of his act and such command over himself that he *could have refrained* from the deed. If he had not such self-control, he is not guilty or responsible in the same sense as other men.

"The law, however, disdains all such refinements, and rejects as worthless the testimony of medical experience. At the second reading of the Lunacy Regulation Bill, the Lord Chancellor lately declared in the House of Lords, that 'the introduction of medical opinions and medical theories into the subject has proceeded upon the vicious principle of CONSIDERING INSANITY AS A DISEASE, *whereas the law regards it as a fact*, which can be ascertained by the evidence in like manner as any other fact. Therefore we empanel a jury of ordinary men, and call upon them to try the question by proof of the habits, the demeanour, the conversation, and the acts of the alleged lunatic.'

"And this extraordinary speech is only a parallel to the answers given by the 15 judges to a series of questions on this subject submitted to them by the House of Lords in 1843, and suggested by the trial of M'Naughten for the murder of Mr. Drummond.

"The words of their answers may be quoted, as they are brief, and constitute the most important deliverance on this subject.

"'Notwithstanding a party commits a wrong act while labouring under the idea that he was redressing a supposed grievance or injury, or under the impression of obtaining some public or private benefit, he is liable to punishment. The jury ought in all cases to be told that every man should be considered of sane mind until the contrary was clearly proved in evidence; that before a plea of insanity should be allowed, undoubted evidence ought to be adduced that the accused was of *diseased* mind, and that at the time he committed the act *he was not conscious of right or wrong*. Every person was supposed to know what the law was, and therefore nothing could justify a wrong act, except it was clearly proved that the party did not know right from wrong. If that was not satisfactorily proved, the accused was liable to punishment. If the *delusion* under which the person laboured were only partial, the party accused was equally liable with a person of sane mind. If the accused killed another in self-defence, he would be entitled to an acquittal; but if the crime were committed for any supposed injury, he would then be liable to the punishment awarded by the laws to his crime.'[a]

"By the law, therefore, Smith would certainly have been condemned and executed, had he unfortunately succeeded in any of his homicidal

[a] Brit. and For. Med.-Chir. Rev., July, 1843, page 273.

attempts, for he was perfectly aware of the criminal nature of such deeds, and of the legal penalties they implied, and 'any jury of ordinary men,' testing his condition, as the Lord Chancellor directs, 'by his habits, demeanour, conversation, and acts,' would, in the earlier part of his history, have most undoubtedly pronounced him guilty; yet, surely, the latter part of his life demonstrates that this would have been most unjust, and his execution nothing less than a judicial murder.

"The case of Clark, who was lately tried for murder at Newcastle, in many respects resembles that of Smith, and illustrates well the imperfection of the law in such cases. In revenge for supposed injuries Clark murdered a tax-gatherer on the public street, and on trial for the deed he was found guilty and condemned to die. The medical evidence was strong and clear as to the existence of insanity. The prisoner believed that he was Jesus Christ, and his conduct at the trial, where he conducted his own defence, was certainly very insane; yet the jury, recognizing a motive for the deed, and acting on the principle laid down by the Lord Chancellor, found him guilty of murder; the judge declared his belief that he was responsible for his conduct, and the poor lunatic was sentenced to death.[a]

"Immediately after the trial, as if to put in their strongest light the absurdity and danger of the legal views of insanity, the judge wrote to the Home Secretary to direct attention to the peculiar circumstances of the case, and the strong evidences of insanity; the result of which, and of the steps taken by the public, was the respite of the sentence on that ground. A man who believed himself to be Jesus Christ, was by the law condemned to death as a criminal, and then the Crown was besought to interfere to prevent the law taking its course! The Lord Chancellor is the legal guardian of all the insane in England, and ought, therefore, to be an authority on insanity; but the extraordinary principles he has propounded have received a prompt, opportune, and conclusive answer in the verdict of his model 'jury of ordinary men' lately assembled at Newcastle.

"It is high time that the ridicule and contempt with which medical men are so often insulted when testifying to insanity in courts of law, should be thrown back on those who deserve it. They are regarded sometimes almost as partisans of the criminal, who wish to screen him at the expense of truth and justice, and this by those whose ignorance of mental medicine rather aggravates than excuses such treatment. The state of the lunacy laws generally is very discreditable to the legal profession, and affords very uncertain justice to the criminal lunatic. The question of degrees of insanity with corresponding degrees of general capacity and criminal responsibility, has received far too little attention.

[a] Med. Critic and Psycholog. Journal, April, 1862.

A man may be quite able to go at large and to mix with the world like other men, but quite unable to manage his own affairs with discretion or safety; and another may be quite unable to be at large or to mix with the world, and yet quite able to manage his own affairs with propriety and intelligence. There are surely degrees, too, of criminal responsibility. In one insane person the intelligence and self-control may be so perfect that death would be a righteous penalty for murder. In another, the insanity may be so far apart from the crime, that it would modify responsibility only as evincing a weakened state of the mind generally, and should modify the penalty, not absolve from it. Whereas in others the homicidal act may itself constitute the insanity, or may be so directly connected with delusions that the individual is quite irresponsible.

"'A jury of ordinary men' cannot possibly decide such questions, and they will never be satisfactorily settled until medical experts have a more prominent place in their adjudication, and until the law recognizes more distinctly the various phases of insanity, and the different degrees of imbecility."

Cerebral Disease in the Course of Syphilis (*Medizinische Jahrbücher*).—M. Beyran looks on cerebral affections, as belonging to the class of tertiary symptoms of syphilis, finding them associated with pains in the bones, periostitis, and ostitis. The bones of the skull and the spine are sometimes the seat of syphilitic disease, and paralytic symptoms may be caused by pressure on the cerebral parts.

Burdel records a case in which, fifteen years after a primary syphilitic disease, muscular tremblings, pains in the back of the head, attacks of unconsciousness, transitory hemiplegia, and, subsequently, syphilitic throat and skin affections appeared.

Two children of this person were affected with secondary syphilitic disease. Although the patient, when he came under M. Burdel's care, was in a very enfeebled state, his feet being œdematous, and presenting also perforation of the velum palati, he nevertheless recovered under anti-syphilitic treatment.

Blachez and Lugs record a case of meningitis, which ended fatally on the 14th day. The subject was a soldier, aged 28 years, in whom the disease was traced to a syphilitic origin.

Opium, Digitalis, Stramonium and Haschisch in the Treatment of Mental Disease. (*Medizinische Jahrbücher.*)—Dr. Winge, in his Report of the Lunatic Asylum at Christiana, gives the results of his experience as to the effect of these remedies. Opium he administers freely in cases marked by exaltation of the brain and nervous system, with precordial anguish and sleeplessness. He begins with moderate doses, and goes on increasing them from one or two grains, morning and evening; and sometimes 14 gr. doses are given before the favourable influence is attained.

The quantity is then gradually reduced until it comes down to one grain, which is continued for some time before the use of it is abandoned. Winge does not participate in the fear expressed by some, that opium, in large doses, produces constipation, and also that it tends to cause the disease to become incurable. After small doses he has sometimes, but rarely, observed slight congestions and a sluggish state of the bowels, which sometimes disappeared of themselves, or after gentle laxatives. The use of moderate doses (4 to 5 grs.) was sometimes followed by vomiting, which often ceased on increasing the dose. It was never found necessary to give up the opium in consequence of the vomiting. Remarkable depression, which is ascribed to opium, was never observed, even after large doses. In torpid persons, with congestions of the portal system, or in persons labouring under disease of the heart or great vessels, and in cases of general paralysis, Winge is unwilling to give opium generally; but when he does, it is in moderate doses, and with much caution. Cerebral congestion has been looked upon as contra-indicating the use of opium; but in low cases, with congestion, opium, in combination with iron and quinine and other tonics, is frequently found the best remedy, the congestion being in many cases produced by excitement, restlessness, and insomnia. When spasmodic symptoms are present, moderate doses of opium are recommended, with oxide of zinc. If the patient is depressed, with a weak pulse and flabby tongue, if he is sad and hypochondriacal, and if there be nothing to contra-indicate powerful narcotics, the acetate of morphia, either at night or twice or three times daily, is found useful.

Digitalis is recommended by Dr. Winge in cases in which the mental disease is associated with organic cardiac affections, and there may be reason to believe that it may be caused by the disease of the heart, and the abnormal activity of the circulatory system; also, according to his experience, digitalis is indicated in those cases in which the disease depends on a sub-inflammatory state of the membranes, or on an exudative meningitis, or when it is accompanied by a such a process.

In hallucinations of sight and hearing, stramonium was given in doses of from 2 to 10 grains of the extract

Dilatation of the pupil and weakness of sight were sometimes produced, which, in some cases, disappeared of themselves, and in others it was found expedient to diminish the quantity. Dr. Winge does not inform us whether the hallucinations were influenced by the stramonium.

Haschisch (cannabis Indica) has frequently been used, and he considers that it may be resorted to with good effect for sad and dejected patients, as he has observed that it has a cheering and vivifying influence.

If large doses be given, or if it be continued for a long period, it has, according to Winge's experience, produced hallucinations, or had the effect of fixing such as may have previously existed.

SUICIDE.

It appears from the official statistical returns that Denmark enjoys an unenviable pre-eminence with respect to suicide—a fact referred to by Callisen 50 years since:—

From 1845 to 1856 there were 4,430 or 369·2 per annum, which in a population of 1,444,000 gives one suicide for 3,911 persons. In the decennium preceding, the proportion was one in 4,568; there is then an increase. The women form a fourth, as in France, and the greatest number take place in summer. In Copenhagen the proportion is 3·91 in 1,000 inhabitants; in other parts of the kingdom it is much less.

Much maligned England presents by no means a formidable array of suicides. The latest census shows 57 suicides in a million of inhabitants. In Scotland it is 34 in a million.

Prussia is far above Great Britain, the numbers being 109 in a million. Suicidal mania then in Prussia is nearly double as frequent as in England, and nearly three times as frequent as in Scotland.

The following are notes of a paper on this subject, read by Mr. Radcliffe before the Social Science Congress:—

During the five years 1852-56, according to the Registrar-General's returns, 5,415, suicides were committed in this country (including Wales), showing an annual average of nearly six suicides (5·87) to 100,000 persons living at all ages, and of 26 to 10,000 deaths from all causes.

In 1838-40 the annual average of suicides amounted to a fraction more than 6 (6·2) in 100,000 population, and to 28 in 10,000 deaths from all causes. It would seem, then, that in the two periods, 1838-40 and 1852-56, the tendency to suicide was nearly stationary. There would appear, therefore, to be no sufficient reason for the very prevalent belief that suicide has of late years largely increased in the kingdom.

Again, the belief that England is "the classic land of suicide"—can no longer be entertained in the face of these figures. The number of suicides in France, during the seventeen years 1836-52, averaged about 8 (8·3) in 100,000 population—1 in 12,013 inhabitants. In England, as we have seen, the proportion in the two periods, 1838-40, 1852-56, was 1 in 17,039 and one in 16,129 inhabitants. But then the English statistics of suicide are at the best imperfect. The Registrar-General's returns do not show, probably by one-tenth, the whole amount of suicides actually distinguished as such at the time of death.

The Home Office returns of suicide now, however, extend over five years, 1856-60, and show an annual average of (6·7) per 100,000 population, or 1 in 14,906 inhabitants; a proportion in excess of the Registrar-General's returns for 1852-56, still comparing most favourably with those for France.

The positive records we possess certainly show that, as far as our

present information extends, England holds only a second or third-rate position in the suicide scale among civilized nations.

The justness of this conclusion will become still more apparent by a glance at the Prussian statistics of suicide. In 1834, according to Dr. Morel, the proportion of suicides in that kingdom was 1 in 9,941 inhabitants, and in 1843, 1 in 8,081. In the three years 1850-52 the number averaged 38 in 100,000 deaths from all causes. Even France, then, as well as England, must yield the sad precedence to Prussia in this matter, unless the progress of suicide in France since 1852 has been such as to overtake that which had previously been observed in Prussia.

It is very noteworthy that the most recent statistical return on the health of the army shows a proportion of suicides occurring among the troops on the home station more than *double that found in civil life!* The proportion of suicides occurring among 1,000,000 males of the military age (20—40) in civil life, may be estimated approximately, according to the Registrar-General's returns for 1852-56, at 124·6. But the proportion occurring in the troops on the home station in 1859 (20 in a strength of 71,715 men) shows a ratio of no less than 278·8 in 1,000,000! It is difficult to escape the conclusion, even if subsequent returns prove that the proportion of suicide in 1859 was exceptional, that the causes leading to so extraordinary an excess of suicide among the troops at home, and those which have given rise to the recent outbreak of murders by soldiers, have much in common. However this may be, there can be no question that the army returns of suicide confirm the necessity, made too apparent by the late murders, for a careful inquiry into such grievances as may exist among the troops.

The returns of suicide in the navy show also an excess over those occurring in civil life, but not so great as in the army. The average proportion of suicides annually occurring among the sailors on the home station, to 1,000,000 of the strength, was, in the three years 1856-58 135·4.—*Social Science Review.*

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.[a]

TWENTY-FIFTH ANNUAL SESSION 1862-1863.

Mr. Hamilton, President.

Cancer of the Breast.—Mr. M. H. Collis exhibited a photograph, taken from a woman affected with cancer of the breast for three years. The breast affected, was considerably smaller than the one on the opposite

[a] These reports are furnished by Dr. R. W. Smith, Secretary to the Society.

side. There was great puckering at the nipple, and also in the skin, at a considerable distance from the nipple. This was a form of cancer known as atrophic scirrhus, and was the nearest approach to a natural cure of cancer. It had existed in this particular case for upwards of three years, the general health of the woman being pretty good, except for the anxiety occasioned by the tumour's causing her a considerable amount of pain. There was nothing of what could be called cancerous cachexia in her appearance, nor was she wasted in flesh. In connexion with this case he might mention another, which was an extreme case of this form of scirrhus. He had an opportunity of examining the breast of the lady, after her death from bronchitis. She had been subject to the disease for 29 years. To all intents and purposes it might be called a natural cure of cancer. She lived during that period, enjoying tolerable health, mixing in the highest circles of society, both in Dublin and in London ; and no one, except her medical advisers, perhaps, was aware that she had suffered for 29 years under undoubted scirrhus of the breast. The first authorities in London and in Dublin had seen her, and had pronounced upon her case at different periods. Most of them had wisely advised her to abstain from having any operation performed upon it. The *post mortem* examination of the tumour, equally with the history of it during life, and the appearance of it as described in its early stages, proved that it was undoubted scirrhus. Now, it was important to be able to recognize this form of scirrhus. It was known, in the first place, by its reducing the size of the breast. The sound breast of the patient, represented in the photograph, was pretty large, while the diseased one had almost vanished. It was of extreme and stony hardness. It rapidly attached itself to the skin, and then went on slowly drawing down the nipple, and incorporating it and the skin with the tumour, until at last the nipple presented the appearance of a deep-set umbilicus in the centre of the small tumour. The tumour was never large in these cases. The largest tumour of this sort would not arrive at the size of a pigeon's egg. In connexion with the small tumour, which attached itself to the skin, and became by slow degrees incorporated more and more with it, there were almost always fibrous bands of considerable density to be found, running more particularly in the direction of the lymphatics, towards the axilla, and drawing the nipple and gland upwards and outwards in the direction of the armpit. Such were the characters by which this tumour was to be known, and which, as long as they were present, warned the surgeon not to meddle with it. This, as he said, was the nearest approach to the cure of cancer, arising from the operations of nature ; but sometimes, either from internal causes, or, more frequently from external injuries, a tumour possessing this character at the outset takes upon itself a more active development, and there might arise within a tumour of this kind—resulting from a blow or effusion of blood—a

fresh centre of active development of cancer; and the original tumour, which, if kept from injury, might have lasted the patient's life, or for many years, might be thus lit up into an activity, probably rapid in proportion to its previous chronicity. These cases, therefore, should be kept under observation. The patient should be warned and guarded against the affected part being suffered to sustain any injury, and also to give notice of any increase in the size of the tumour at any time, as surgical interference would then become necessary.—*January* 10, 1863.

Cancer of the Stomach and Intestines, and of the Uterus and Ovaries.—Dr. Law observed that the pathological specimens he was about to exhibit were taken from the body of a woman, aged 48, who had died in Sir Patrick Dun's Hospital a week since. She had been married, but had no children. Her previous history was, that she had had for years a "weak and windy stomach," but had never been that she could really call ill until about nine weeks before she was admitted into the hospital. She had gone to see a relation in Cork, and there she had become seriously ill. On her return to Dublin, six weeks since, she was seized with vomiting, so that her stomach retained nothing; everything she swallowed was immediately rejected. Her bowels were most obstinately constipated. She sought relief from a dispensary in the neighbourhood of the hospital, but as nothing she got afforded any relief either to the sickness of stomach or constipation of the bowels, she applied to be admitted into Sir Patrick Dun's Hospital, and was received into it on the 19th of December, 1862, under Dr. Banks' care. On her admission she was in a state of extreme exhaustion, resembling one in the collapse stage of cholera. She was reported to have had constant vomiting for a month, and to have had no discharge from the bowels during all that time. Dr. Banks tried every possible means of relieving the irritability of the stomach and the constipated state of the bowels, without any effect. Neither medicine nor food was retained by the stomach. Medicine, administered both by the mouth and by injection, and the long tube, were employed in order to produce a motion of the bowels. After being a few days under Dr. Banks' care, she became Dr. Law's patient, exhibiting the same symptoms as she presented when first seen, viz., extreme irritability of stomach and obstinate constipation of bowels. He first tried to ascertain the cause of the urgent symptoms, suspecting that they might possibly depend upon a hernia, but he could find no appearance of it. He experienced great difficulty in examining the abdomen by pressure, in consequence of the rigidly contracted state of the muscles; the patient only appeared to suffer some pain when the epigastrium was pressed. There were no means Dr. Law could think of, to allay the irritability of the stomach, that he did not try, whether in the shape of medicine or of food, but without almost any effect. The bowels

with equal obstinacy resisted aperient medicine. There was but a single fecal evacuation produced by enema during the whole time of her three weeks' sojourn in the hospital. Dr. Law tried to sustain her rapidly-declining strength by enemata of beef tea and brandy, and large poultices of bread and milk on the abdomen. Two days before her death the stomach became settled, and retained egg beat up with sherry wine. The muscles of the abdomen that had hitherto been rigidly contracted now became relaxed, and the abdomen itself tympanitic, but not the least tender on pressure, except in the epigastric region. The countenance indicated extreme anguish. She not only discharged from her stomach everything she swallowed, but also a large quantity of green, bitter fluid. There were no sarcinæ in the fluid vomited. She was reported to have had stercoraceous vomiting before she came under Dr. Law's care, but he had never seen anything like it while she was his patient. On one occasion only the discharge from the stomach was dark, like coffee grounds. She died of extreme exhaustion, from suffering, and innutrition. The specimens exhibited a large amount of disease. All the intestines were coated over with pasty lymph, evidence of recent peritoneal inflammation. In fact, both the parietal and visceral peritoneum were covered with this lymph. The stomach was unusually small; and when opened exhibited a remarkable specimen of fibro-carcinoma, involving the pylorus, and extending almost two inches into the organ. On making a section, it required no small force to divide the scirrhous structure which, even before you approached the pylorus, was, at least, half an inch thick. The pylorus was so contracted that the little finger could not be passed into it. The mucous membrane of the stomach was deeply congested through its entire extent, except in the immediate vicinity of the pylorus; it was evidently in a state of high inflammation. The scirrhous structure did not stop at the stomach; it extended some way into the duodenum, forming a fibrous lamina between the mucous and peritoneal coats of the intestine, and embracing the whole circumference of it. This same structure was extensively developed through both the small and large intestines, and especially through the latter, where the tube became very much contracted. It was, in fact, carcinoma in the annular form. Several glands in the neighbourhood of the portions of intestines where the scirrhous structure was found, were hard and scirrhous in their structure. The omentum was hard and shrivelled up, and formed a transverse band, from which proceeded fibrous threads towards the large intestine; these threads, in some places, almost surrounded the intestine. As these threads in this relation presented themselves to his view at an early stage of his examination, Dr. Law thought that he had in them an explanation of the symptoms exhibited during life, and that it was a case of internal strangulation. But as he proceeded in his examination he found enough to alter his opinion. In the walls of

the uterus there were two tumours, one about the size of a hazel nut, the other about the size of a walnut; the former was decidedly scirrhous, the latter was a fibrous tumour; and Dr. Churchill, to whom Dr. Law submitted it to have his valuable opinion on its nature, thought that it would eventually have become a polypus of the uterus. Both ovaries were converted into small shrivelled scirrhous bodies. Dr. Law considered the pathological specimens and the case altogether to be full of interest. There was in it much both of acute and chronic pathology. Nor was it easy to say how much of the symptoms during life were due to the acute and how much to the chronic lesions. The excessive irritability of the stomach, and obstinate constipation of the bowels suggested the likelihood of strangulated hernia, but it was looked for in vain in its ordinary situations. Nor was there any general tenderness of the abdomen on pressure. Dr. Law next thought that the symptoms probably depended upon malignant disease of the stomach, reflecting that constant symptoms of this disease are both irritability of the organ and constipation of the bowels. He was, however, baffled in his attempt to examine the stomach by pressure, to ascertain the existence of a tumour in the region of the pylorus, by the rigid contraction of the abdominal muscles. Still he saw in this state of the muscles an expression of the acute suffering of the parts within the abdomen, which, at least, was not common in scirrhus of the stomach. Dr. Law looked upon the rigidity of the muscles as the effect of reflex action, a response to the cry of distress from the parts within. Dr. Law spoke advisedly when he asserted that such was not usually the case in instances of cancer of the stomach; for in most cases in his experience the muscles were relaxed, and allowed an unhindered examination. Dr. Law further looked upon the excessive irritability of the stomach as opposed to the view of its dependence on uncomplicated scirrhous pylorus. For although, undoubtedly, vomiting is a very constant symptom of this lesion, yet, in the case under consideration it differed from it in these respects, that nothing produced the slightest effect in relieving it, and the matter swallowed, whether medicine or food, was immediately rejected, which was not commonly the case in scirrhous pylorus. The inflamed condition of almost the entire mucous membrane of the stomach explained the difference. Dr. Law did not ascribe the obstinate constipation of the bowels entirely to the affection of the pylorus. He regarded it in part due to the constriction of the colon produced by the fibrous bands that proceeded from the omentum, and almost acted as so many ligatures on this intestine. Dr. Law adverted to the very unusual circumstance of the scirrhous structure extending to the duodenum, as it most usually confines itself to the stomach. Indeed, the implication of the small intestine in the disease, he remarked, was very rare, while the large intestine was very often affected, especially the rectum. The

appearance of the scirrhous structure in the intestine, and engaging the sub-mucous cellular tissue, so exactly resembled what is seen as the result of common inflammation originating in the mucous membrane, and which, extending to the sub-mucous cellular tissue, converts this tissue into a fibrous structure, that if there had not been the unquestionable scirrhus of the stomach, doubt might have existed as to the exact pathological nature of the lesion in these parts. Dr. Law observed how several pathologists, led by the appearance of this structure so very similar—no matter under what conditions or circumstances of the system originating—regarded it always as no more than the result of common inflammation; while others, from the same cause of similarity of appearance, looked upon it as always of a malignant nature. While Dr. Law believed that truth lay between these extreme opinions, he thought it might reasonably be asked, if what was not originally malignant in its nature, might not ultimately become so under a deteriorated condition of the constitution? The question often had been asked if fibrous tumours of the uterus and ovaries ever underwent such a change; and if such a change might not be apprehended among the eventualities of these tumours, and therefore be a reason for early operation. Dr. Law would offer no opinion on the point, but would notice the remarkable coincidence of the two tumours which were found in the walls of the uterus, one unquestionably scirrhous in its nature, while the other Dr. Churchill pronounced to be a simple fibrous tumour, which, if it had been allowed to fulfil its destinies, would have eventually become a polypus of the uterus. Here were two tumours, different in their natures, in the same organ, in the same individual. Was it a mere accidental meeting of growths strangers to each other, or of growths, although dissimilar when presented to his notice, which would, in the progress of their development, have become more like each other? Dr. Law would content himself with simply raising the question, how far a growth, originally not malignant in its nature, might become so under altered or deteriorated conditions of the general system? or how far a benign growth might continue to maintain its benign character where malignant growths were forming even in the same organ with it? The contrasting varieties exhibited in the various contents of different loculi or chambers in a multilocular ovarian tumour afforded proof how many pathological processes may be going on, not alone in the same body but in the same organ at the same time. One chamber might contain matter malignant in its nature, while the next, only separated from it by a thin partition, might contain what would appear to be nothing more than the ordinary results of inflammation in the most healthy subject.—*January* 10, 1863

Malignant Tumour.—Dr. Wharton exhibited a *post mortem* section—about one-half of a tumour, which occupied the entire extent, both in

length, breadth, and depth, of the left gluteal region. The weight of the section amounted to 4 lb. 9 oz., so that that of the entire tumour weighed upwards of 9 lbs.

The subject of the disease was a man between 40 and 50 years of age, who had habitually enjoyed good health; his aspect, however, exhibited a strumous tendency. He was in the employment of the Ballast Board, and his habits were strictly temperate.

The tumour originated from an injury received nine years ago, during the shipping of a barrel of salted meat, on which occasion, and by which means, he was thrown upon his coccyx. The immediate effect of the accident was violent pain in this region, attended with syncope, in which state he was carried to the cabin.

After the lapse of some time, a small swelling, about the size of a bantam's egg, presented at the left side of, and close to the anus, on account of which he placed himself under the care of Dr. Beauchamp, with Mr. Cusack occasionally in consultation. The treatment chiefly consisted in the internal and external use of iodine. The tumour, however, continued to increase, and the pain to become more decided. After Mr. Cusack's death, Mr. Hutton was consulted, and subsequently I saw him on one occasion, after which he passed into other hands. The glands in the groin were at this time involved, and the pain was intolerable, being apparently due to the implication of the great sciatic nerve. During the recent Christmas recess, death having brought his sufferings to a close, I received an intimation that I might examine the body, a privilege of which I at once availed myself, as well as of the kind assistance of Mr. Foot, who indeed made the *post mortem* examination. The autopsy, which was conducted in the presence of the brother-in-law of the deceased, was necessarily incomplete, yet so far satisfactory as to enable me, by permission, to remove the portion of the tumour now submitted to your inspection, a matter of some difficulty, by reason of its firm attachments to the skin and subcutaneous tissue by means of tough fibrous bands, which resisted all attempts to sever, except by the knife. The subcutaneous tissue had lost all of its cellular appearance, being converted into a thick, opaque, and grisly substance.

The tumour itself was composed of a dense mass of large and firm granules, resembling fat, and its colour, on section, was pinkish, with the exception of a small portion at the base, which had the character of cartilage. Having requested my colleague, Mr. Collis, to make a microscopical examination of the specimen, he has kindly favoured me with the following report, in connexion with which, it may not be irrelevant to mention, that about four months ago I removed a small melanotic tumour from the brother of the deceased:—

"My dear Wharton,—I have closely examined the tumour from

the gluteal region to-day. It presents undoubted marks of genuine cancer throughout every portion.

"1.—At the hard part, which you pointed out as the original site of injury, I find, along with much fibrous tissue, an abundance of what are commonly called cancer-cells, of the type generally found in scirrhus.

"2.—In the portion which is of a reddish colour, and in texture somewhat like erectile tissue, the cells are very various in size—the majority are the ordinary lymph-cell, or cell of connective tissue; a comparatively smaller number are cancer-cells, and I find a great many intermediate forms between these two extremes.

"In the large subcutaneous loculi, filled with a soft granular matter, I find plenty of fat and oil, and a quantity of very large cancer-cells, evidently of the acute or encephaloid type, and recently deposited.

"Here and there throughout the tumour there are spiculæ of bone; in the erectile portion there is a quantity of blood and much fibrous tissue, with some yellow elastic fibre.

"To sum up, this was evidently a scirrhous tumour of long standing, the result, as cancer generally is, of an injury. It slowly progressed, until near the end, when a rapid deposition took place in the lax areolar tissue, outside the original seat of the tumour.

"The state of parts in what I call the erectile portion proves to my mind, incontestably, that all these varied forms of morbid cells, however widely they differ in size and outline, have a common parentage—namely, what Virchow calls *the cell of connective tissue*, and what I call by the more familiar name of *the lymph-cell*, for in this part of the tumour we find cells of every variety as to size, from the small and apparently healthy lymph-cell up to the monstrous and unshapely cancer-cell.

"I consider it of no slight importance that this view of cancer, which I look upon as the true view, should be upheld by the Dublin school of pathology; for while it fully recognizes the individuality of cancer and its marked differences from other morbid growths, it does not refuse to recognize the points of analogy which it bears to them, and which it is at least as essential that we should bear in mind, if we ever hope to obtain mastery over this disease.

"As long as we look upon cancer as something parasitical or heterologous, so long shall we despair of curing it. Once we recognize it as a morbid alteration of natural structures we shall perceive that there is at least a possibility that a cure for it may yet be discovered.

"For the present, however, there is no doubt we shall best treat all tumours, even surgically, if we are able not only accurately to diagnosticate between their varieties, but also to recognize their points of agreement and analogy; certainty of practice will always follow on accuracy of diagnosis and comparison.—*January* 17, 1863.

"Truly yours, MAURICE H. COLLIS."

Adipose Tumours.—Mr. Hamilton, in laying before the meeting an example of this form of tumour, made the following observations:—

I present to the society a specimen of the ordinary fatty tumour, where it occurs superficially—as a contrast to another specimen, more deeply situated. The first or common kind will be seen to be composed of a collection of loose yellow lobules of fat—not kept together by a uniform cyst, but unconnected, except by a coarse cellular tissue, which forms a thin transparent envelope to each lobule. I removed this tumour from the shoulder of a young woman of healthy appearance. It was soft, lobulated, and, when pressed on the upper surface, showing an undulating or lobulated margin; the integument healthy, and not adherent to the tumour; not painful. Now, there could be no doubt from these characteristics, that the tumour was a fatty one; and the diagnosis of this kind of tumour, when superficially seated, as we find them about the shoulders, back, buttock, or thigh, is very easy; when the fatty tumour is seated under a thin muscular expansion, as the platysma, or the trapezius, or under a fibrous fascia or tendinous expansion, as under the occipito-frontalis, or tensor vaginæ femoris, the diagnosis is often difficult. You then have a soft elastic tumour, in which the lobulated character does not exist. The diagnosis of this other specimen of fatty tumour presented this difficulty.

A lady consulted me for a tumour, occupying the left side of the face, and which caused considerable deformity. It filled the whole parotid region, from over the zygomatic process above, and the side of the jaw below, and extended behind the ascending ramus of the jaw, so as to push the ear upwards and forwards. It was prominent and large, putting the integuments on the stretch, giving them a tense shining surface; it dragged slightly back the outer angle of the left eye, and more decidedly the left side of the mouth, giving a peculiar and disagreeable expression. Though it was prominent in the centre, the margin was diffused; its contour smooth, without any appearance of lobules; the integument healthy and movable over its surface. Its consistence was firm, with an elastic, pseudo-fluctuating feel. It was little movable from side to side, but still enough so to lead to the conclusion that the base was not adherent to the subjacent parts altogether, and not amalgamated with them. I considered that the little amount of lateral motion, as also the diffused margin of the tumour were of the same origin—viz., its position under the strong fibrous fascia which covers the parotid. I considered it to be most likely one of those pale, grey, elastic tumours, met with in this situation, and at the side of the neck—a fit case for removal, as it presented no character of malignancy, and the lady was perfectly healthy. It was of 20 years growth, and had commenced with a little swelling anterior to the articulation of the jaw, slipping in and out at first with the motions of the jaw. Assisted by Mr. Smyly, I removed the tumour

while the patient was under the influence of chloroform. I had turned carefully in my mind the best method of removing it effectually, and with as little deformity as possible; and at first I was inclined to use only one long perpendicular incision, rather near to the ear; and should I, in the course of the operation, require more room, join another to this, a little below the line of the side of the jaw, so as to be able to turn up a flap, if necessary. But thinking it possible that it might be adherent at some points beneath, and that if I had not sufficient room I might, in dividing these deep-seated adhesions cut across the seventh nerve, and thus give rise to all the disfigurement of facial paralysis, I determined to give myself room. I, therefore, made a perpendicular incision from the zygomatic process to the lower line of the jaw, about two fingers' breadth before the ear, and a transverse cut to this, making the incisions crucial, in a line from the lower part of the ear to midway in the cheek. They were carried down to the tumour itself. By dissecting down to its surface, and dividing an adherent band here and there, and tearing it up from its bed by the fingers and the handle of the scalpel, it was removed entire; but not without considerable difficulty, as it was adherent to the bones at two points—to the zygoma above, and to the ramus of the jaw below—the osseous tissue in these situations being rough and deprived of periosteum, absorbed, no doubt, by the pressure of the tumour. As had been surmised, it was situated under the strong fibrous capsule of the parotid gland, which was flattened and diminished by the superincumbent pressure. When removed, the tumour proved to be a fatty tumour, but of firm consistence, oval in shape, about the size of a lemon, and smooth on the surface. There was a separate flat mass of fat under it, between it and the parotid, which I removed, as well as a small detached tumour, the size of a chestnut, more white and firm than the larger tumour. There was no trouble from hemorrhage, and she recovered without a bad symptom.—*February* 28, 1863.

Cancer of the Stomach.—Dr. Hayden exhibited a morbid specimen, taken from the body of a female 34 years of age, who was admitted into the Mater Misericordiæ Hospital on the 3rd of February, and died on the morning of the 15th. The history she gave of her case was, shortly, as follows:—She was the wife of a poor farm labourer, living in Wicklow, and the mother of six children, each of whom she suckled at the breast for two years and a half. Her habits were most industrious and laborious. She had been accustomed to carry heavy weights for the surrounding population, over a mountainous part of the country. About 18 months ago—the time nearly coincided with that at which she ceased suckling her last child—she suffered, for the first time, from acidity of the stomach, flatulence, and occasional vomiting. The latter occurred after taking a heavy meal, and she scarcely experienced any pain at that

time. In the process of time the acidity of the stomach and eructations became less troublesome, but in the same proportion the vomiting increased in frequency. A month before her admission she was quite incapable of retaining any alimentary substance in the stomach, except fluids, and these only for a few minutes. Her appearance was that of extreme emaciation—her face and entire body were wasted to a degree. Her face presented a curious tint of colour, which might be described as an admixture of the anemic with the jaundice tint; her lips and tongue were white. Her pulse was extremely feeble and quick. The left lower extremity, from the hip downwards to the toes, was œdematous, and the seat of excessive pain. In fact, at the time of her admission into the hospital, she complained principally of the pain in the lower extremity. Her bowels were habitually constipated. On turning down the bedclothes, it was quite obvious, from the appearance of the epigastrium, that it was the seat of the disease. On placing his hand on the epigastrium, he felt a hard irregular tumour, which obviously engaged the stomach, and to a slight extent the left lobe of the liver. The lower extremity was tense, especially that portion near the popliteal space, and so sensitive that she could scarcely bear the finger to touch it. It was unnecessary to detail the progress of the case beyond stating that during the period of her residence in hospital she was totally incapable of retaining any kind of nutriment; even water only remained for a few minutes on the stomach. On examining the body after death, the entire of the pyloric extremity of the stomach was found infiltrated with carcinomatous substance. In the neighbourhood of the pylorus a deep ulcer was formed, the fundus of which consisted of the transverse muscular layer of the stomach; another ulcer, less deep, existed near the former. The entire of the lining membrane of the pyloric extremity was deeply congested. The pancreas was rigid and closely adherent to the posterior surface of the stomach. The lesser curvature of the latter organ was firmly attached to the free edge of the left lobe of the liver, and the adventitious bond of union between the two organs was the seat of carcinomatous deposit, which extended to that part of the liver immediately adjoining. On examining a section of the left lobe of the liver he found cancerous deposit extensively disseminated through it; and the lumbar glands were also similarly diseased, some of them containing a fluid extremely like milk, which furnished a good example of "cancer-juice," and, examined microscopically, presented nucleated cells, varying in size from one-thousandth to one-eight-hundredth part of an inch, and spheroidal or ovoid in figure. The points of interest in the case are the almost total absence of pain referred to the stomach, and the complication of acute œdema of the left lower extremity, unaccompanied by inflammation of the lymphatics, or veins of the limb.—*February* 28, 1863.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.[a]

TWENTY-FIFTH ANNUAL SESSION, 1862-63.

Dr. Beatty, President.

Dr. Kidd exhibited a pessary that had remained in the vagina for 13 years. The patient, about 70 years of age, applied to Dr. Kidd, at the Coombe Hospital, on the 9th January. She stated that he had himself introduced the pessary for her, 13 years ago, and that, notwithstanding the directions she had got to apply at the hospital occasionally to have it taken out and cleaned, she had found so much comfort from its use that she had not done so, and had almost forgotten its presence, till, about a fortnight ago, when she began to suffer from pains in her back, and from vaginal discharge.

On examination it was found that the string of the pessary had disappeared, and that the instrument itself had become coated over with a calcareous crust. The vagina was hot and tender, and there was a very offensive discharge. All attempts to grasp the pessary with the fingers failed, and Dr. Kidd introduced one blade of Churchill's midwifery forceps, and, by carrying it above the pessary, and placing two fingers of the left hand opposite to it, so as to steady the pessary and keep it from rolling off the instrument, succeeded in extracting it.

The pessary proved to be one of those so-called caoutchouc ones, which are really formed of a mass of tow covered with some black composition. The composition had all been dissolved away by the secretions of the vagina, which had become ammoniacal, and the whole mass was saturated with highly offensive fluids, so that one could not but be surprised at its remaining so long in the vagina without producing a a great amount of both local and constitutional irritation.

Dr. Kidd mentioned having, on a previous occasion, removed a large globular boxwood pessary that had lain in the vagina for upwards of 20 years.

In this case it was necessary to introduce both blades of the forceps—and Dr. Churchill's forceps was preferred for the purpose—as the points of it approximate so much more than those of other patterns.—10*th Jan.*, 1863.

The Secretary, Dr. Kidd, read the following communication from Professor Murphy, of University College, London, Hon. President:—

Spontaneous Evolution.—On the 4th of November, 1862, Dr. Scholfield

[a] These reports are supplied by Dr. Geo. H. Kidd, Secretary to the Society.

Johnson, of Stoke-upon-Trent, was called on to attend a lady in her first confinement. He arrived shortly before 10 o'clock, a.m.; the pains were then good, and had been so previous to his arrival. After a very careful vaginal examination Dr. J. found the os uteri dilated somewhat larger than a crown piece, and moderately dilatable; membranes entire.

"Dr. J. diagnosed a head presentation; and, from the position of the posterior fontanelle and sagittal suture, was satisfied that it occupied the third position. No examination was again made until the liquor amnii escaped, the os being three parts dilated; and then, to Dr. J.'s astonishment, he felt the breech; the funis also descended, and gave some trouble; as the pulsations were becoming feeble, Dr. J. delivered his patient at 11 40, a.m. The child was nearly still-born, but was restored with some difficulty.

"*The child had a swelling on the upper part* of the left parietal bone, extending towards the occipital; it increased in size during the next 24 hours, and was larger than a pigeon's egg, and evidently contained blood. The ankle also was discoloured, and slightly swollen."

Is this a case of spontaneous evolution, according to Denman's explanation?

Dr. S. Johnson, a skilful practitioner, felt the fontanelle and sutures, so as to diagnose the position of the vertex, and made no subsequent examination until the membranes were ruptured, when he found the breech presenting. After delivery a tumour was found on the upper part of the left parietal bone, just where it ought to be in third positions.

Placenta Previa; Detachment of the Placenta Before the Birth of the Child; Arrest of the Hemorrhage; Child Born Alive.—I was sent for by Dr. Bryant to see a lady in labour, who had several severe gushes of blood with her pains. Suspecting the cause, Dr. B. wished for assistance.

I found her weak from the loss of blood, but the pulse still to be felt quick, but not jerking. The os uteri was dilated to the size of a crown piece, with the placenta over it; it was quite dilatable, so that, as the cause of the hemorrhage was manifest, and there was no reason for delay, we determined that she should be immediately delivered.

In proceeding with the operation I passed the closed fingers easily within the os uteri, and gradually insinuated them between the uterus and placenta. I swept them round, completely detaching the placenta from the uterus, and then proceeded to turn. *The hemorrhage at once ceased.*

I was occupied from 10 to 15 minutes in the operation; and when the child was born it did not at first respire, although the heart was acting; with very little assistance, however, the respiration was gradually established, and the child saved.

Both lady and child are now progressing most favourably.

In this case the placenta was separated from 10 to 15 minutes before the child was delivered, yet the action of the heart continued.—10*th Jan.*, 1863.

The PRESIDENT read the notes of a case in which *a large Calculus was expelled from the Female Bladder, by the natural efforts, through the Urethra.*

Eliza Simcock, aged 40, unmarried, by occupation a milliner, was always healthy until about a year ago, when she first complained of irritability of the bladder, and scalding in the passage of urine. At the end of a year she came up to Dublin from Waterford, where she resided; and, before seeking medical advice, she was persuaded, by some of her friends with whom she was staying, to take a dose of turpentine, which greatly increased the scalding, and produced hemorrhage from the bladder. She was now seen by Mr. Haffield, who shortly afterwards asked me to take her into the City of Dublin Hospital. She was admitted on the 28th of September, 1861.

She was at that time a most miserable object. She was attenuated to the last degree, her pulse fast and feeble, her sufferings constant. Night and day she had the bed pan under her in the bed, an incessant incontinence of urine mixed with blood and pus, of a very abominable fetor, rendering it necessary; and every drop that passed caused intense agony. The vulva was highly inflamed, and pus flowed freely from the vagina. A quantity of sabulous matter, deposited from the urine, covered the orifice of the urethra and the labia, extending into the vagina. A warm hip bath, and a draught with 30 drops of laudanum were ordered. These gave some slight relief, but no sleep.

Sept. 29th.—Still suffering too much to permit of any exploration of the bladder. Camphor, hyoscyamus, and potash ordered; and the hip bath to be continued, with the anodyne at night.

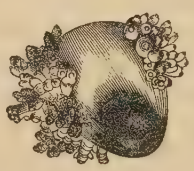
Oct. 5th.—Some alleviation of her sufferings having been obtained, I passed a catheter into the urethra, but not into the bladder, for it was obstructed at the neck of the bladder by a solid body that occupied the canal. Being satisfied that there was a calculus in the bladder, I came the next day, October 6th, determined to attempt its removal, when I found that, in the course of the night, after great pain and straining, and a dragging tearing sensation in the urethra, she was suddenly relieved by something passing away, followed by a large discharge of urine, pus, and blood. The body which had been expelled was one and a half inch long, and one inch broad, and weighed two drachms. It was rather soft and pultaceous on the surface, and was laid aside for further examination.

The bladder was now well washed out with warm water, injected through a gum-elastic catheter, and 10 drops of dilute nitric acid in an ounce of water was ordered every six hours. The warm bath and anodyne draught to be given at night.

Oct. 7th.—The patient passed a tolerable night, and had the first sleep she had enjoyed for many weeks. The irritability of the bladder is much diminished, but the incontinence of urine still remains. The bladder was again injected with half a pint of warm water, which was retained without much pain, and then withdrawn. The bath and anodyne at night.

From this date she continued to improve steadily. The power of retaining the urine was gradually restored. The bladder was washed out every day, and the quantity of water thrown in was daily increased, and borne well. She was finally discharged, without any incontinence of urine, on the 20th of October.

On examining the calculus which had been expelled, it was found that the soft pultaceous matter that formed the outer coating was easily peeled off, leaving a calculus of the very peculiar form delineated in the accompanying wood-cut. It looked like a common pebble, from whose



surface stood out all round a vast number of stoney processes, forming an incrustation like stalactites. My first impression was that this was a foreign body that had been introduced into the bladder through the urethra, and had formed the nucleus around which these curiously shaped deposits had been formed; but it was not so. My friend, Dr. John Barker, kindly examined the specimen for me, and I give his analysis as he furnished it to me:—"The body of the calculus is composed chiefly of oxalate of lime with some lithic acid. The stalactites on the calculus are nearly pure oxalate of lime. The envelope and crusts are formed of earthy phosphates; in the former is a quantity of animal matter."

A glance at the fearfully jagged surface of this calculus is sufficient to explain the torture the woman must have suffered during its sojourn in her bladder; and in the soft coating in which it was encased, we have a striking example of the means by which nature often endeavours to alleviate or remedy disease. If it had not been that this putty-like material was thrown round this calculus, and thus a smooth surface given to what had been so rugged, it is impossible it could ever have escaped through the urethra by the natural efforts.

We now know of six modes by which calculi can be removed from the female bladder. Of these, two are natural efforts, and four artificial. Of the two natural, that, of which the present case is an instance, is the

most common when the stone is of small size; and instances are by no means rare in which this occurs. But it is not often we meet with cases like the present, and that one described at our last meeting by Dr. Byrne, in which stones of such large dimensions escape through the urethra. The rapidity with which the urethra resumed its healthy condition, and the perfect control regained over the sphincter, is of great importance in a practical point of view, for it shows the great extent to which forcible dilatation of the urethra may be carried with impunity.

The second natural effort by which stones escape from the bladder is by ulceration through the coats of that viscus into the cavity of the vagina. Sir Benjamin Brodie gives a notice of such cases in his work on urinary diseases. I lately saw a case with Dr. Bannon, in which a very large stone made its way out in this manner; but as he intends to bring forward the case at a future meeting of the society, I will not further allude to it at present. The four artificial methods are—dilatation, incision of the urethra, incision into the bladder, and lithotrity. I have already alluded to the extent to which the urethra may be safely dilated; by safely, I mean without leaving incontinence of urine behind it. Whenever the stone is of moderate size, this method should be adopted. The prepared sponge tents—such as are described by Dr. Simpson, and used for the dilatation of the cervix uteri—will be found very useful when employed for 10 or 12 hours before the operation. Incision of the urethra, either along its upper or lower surface, has had many supporters. It is imagined that the texture of the canal is less injured by, and yields more readily to, the force used in extraction, and that the wound in the tissues will heal more quickly than the tone of the canal can be recovered, and thus a security against an incontinence of urine is provided. In cases where the stone is very large, and the operation through the urethra is preferred, this mode of proceeding may be used with advantage. The third artificial method is that of cutting directly into the bladder, through the anterior wall of the vagina. From the ease and certainty with which large openings into the bladder are cured every day, I think no one need be afraid to perform the operation in question, when a stone is of too large dimensions to pass by the urethra. The operation is readily performed; and, by the wire sutures, the wound will be at once healed, and no chance of incontinence of urine—which sometimes follows operations through the urethra—will occur. It is obvious that this operation is more applicable in cases of women who have borne children than in virgins. In the latter, the narrowness of the vagina and the presence of the hymen must render the operation more difficult than when the vagina is wide and dilatable, and a good view can be got of the parts to be incised. Of the fourth method or lithotrity, I would observe, that although at first one would be inclined to think it the best and safest mode of proceeding, it has been found to offer great difficulties,

the chief of which arises from the ease with which the urine escapes from the bladder along the sides of the instrument; and when this occurs, there is always danger of injuring the inner coat of the bladder by the blades of the lithotrite. If this can be avoided, and the bladder kept full of water, the operation is one that offers great advantages.

Dr. Quinlan read the following case of *Lithotrity in a Female*:—

E. K., a rather delicate girl, aged 17, was sent to me by Dr. Ryan, of Francis-street, under the following circumstances:—She had been visited by him as a dispensary patient, and found to be suffering from great pain, referable to the region of the bladder, and to have a constant desire to pass water. Upon attempting to do so she used to pass a very small quantity, usually containing a copious deposit. Considerable pain generally followed micturition; this used to be relieved, however, by the patient lying upon her back. Dr. Ryan suspected the existence ofa stone in the bladder; and, upon sounding, at once ascertained that such was the fact. She was accordingly sent to St. Vincent's Hospital for treatment, upon Dec. 12, 1860.

Upon admission the patient was found to suffer from the vesical complications described above, and from some feverishness. The urine was a light colour, of ordinary specific gravity, was highly alkaline, and slightly albuminous. The deposit already alluded to, when placed under the microscope, was found to consist of pus, mucus, and crystals of triple phosphate. The stone, which was single, appeared to be of an ovoid shape, and gave, through the sound, the soft feeling of phosphate. Its size, as nearly as could be ascertained, was, long diameter, something less than two inches; short diameter, somewhat more than an inch; the thickness about three-quarters of an inch. She was recommended flaxseed tea, with hyoscyamus, rest in the recumbent posture, local fomentations of poppy heads, and other suitable measures for the diminution of local irritation. At the same time means were adopted to improve her general health and strength.

Upon the 21st instant, her condition having been very much alleviated, an attempt was made to remove the calculus by dilatation, the mucous membrane having been previously nicked in an upward direction. After, however, dilating for about an inch, I found that, from the extreme rigidity and irritability of the urethra, it would be impossible to continue the dilatation to a degree sufficient for the removal of the calculus in an unbroken state without great risk of laceration. I thought it better, therefore, to wait until local irritation could be even further diminished, and additional measures taken. The case was now seen by Dr. O'Ferrall, who advised me to continue the demulcent treatment previously adopted, with the addition of the occasional application of leeches to the urethra, and of washing out the bladder with warm water, containing a

little laudanum, by means of Brodie's double-channelled catheter. He further expressed his opinion that the best course to pursue, under the circumstances of the case, would be first to break up the calculus with a lithotrite, aud then to remove the fragments by a slight and safe dilatation such as the patient could bear. Accordingly, the irritation having been gradually diminished, so that the patient now suffered very little while at rest, and her health having become greatly re-established, a second and successful attempt was made to remove the calculus upon the 13th of March, and the following days.

The patient having been placed in the lithotomy position, with the pelvis well elevated; four or five ounces of warm water having been injected, Lestrange's lithotrite was introduced, and the calculus, which was easily grasped, was broken four or five times. As soon as the crushing process was commenced the injected water began to escape along the lithotrite. This was, however, arrested, upon the suggestion of Dr. O'Ferrall, by surrounding the instrument with a collar of sponge kept closely pressed against the meatus. Upon the day but one afterwards the calculus was still further broken up.

Upon the next day, March 16, the concluding portion of the operation was conducted as follows:—The patient having been placed under the influence of chloroform, the urethra was nicked in the same direction as before with Crampton's sheathed bistoury, and the urethra was dilated by Weiss' two-bladed instrument, so as to admit the fore-finger, and the fragments, including an ovoid nucleus of lithic acid, were, with the assistance of Dr. O'Ferrall, extracted, partly by the forceps and partly by the finger; and the bladder having been at last found to be quite free from debris, was washed thoroughly out with warm water. The patient was removed to bed, a warm anodyne was administered, and stupes were applied. Not to dwell too much upon details, I may briefly state that the subsequent progress of the case was most favourable. Incontinence of urine continued for about three days; gradually, however, she obtained more command over the bladder, and at last was able to retain water for an hour and a half. Her general health improved from day to day; and when she was discharged from the hospital, upon the 25th of March, the urine had become quite normal. She was recommended to go to the country for change of air, which she accordingly did. She visited the hospital from time to time, and when I last saw her she was strong and in perfect health. She was able to retain the urine for three or four hours during the day, and at night during the entire period of sleep.—10*th January*, 1863.

Dr. Churchill reported to the society, that since his last communication to the society he had made further trials with Hodge's pessary, in

vaginal rectocele; and by adapting the size of the instrument carefully, he had succeeded in preventing the protrusion.

For the support of vaginal cystocele, a slight addition to the instrument is necessary, because the protruding part will escape between the two horizontal bars of the instrument. This is easily prevented by adding two or three cross bars, which effectually support the bladder. Great care should be taken to choose a pessary which will fit exactly.—14*th February*, 1863.

TRANSACTIONS OF THE COUNTY AND CITY OF CORK MEDICAL AND SURGICAL SOCIETY.[a]

SESSION 1862-63.

NOVEMBER 12th, 1862.

DR. W. C. TOWNSEND, President.

Report on Scarlatina. By DR. CREMEN.

In compliance with the wish of the society, expressed at the meeting of the 12th inst., that some information should be collected and laid before it respecting the epidemic of scarlatina which has pervaded this city for the last few months, I have the honour of laying the result of my experience of the disease, as it has occurred in my own dispensary practice, and also the information which has been afforded me by others. The limited space of time for performing this task has, I regret to state, prevented me from furnishing a report as ample and replete with facts and statistics as the subject merits, or as I could wish myself, and, consequently, I fear that it will be found very deficient; indeed, the society is aware, that as far as the element of mortality goes, it is impossible to have true records, as we want in Ireland a public registration of deaths and diseases, such as is to be found in London. However, I think, I am enabled to state, from what I have observed myself, and from inquiries which I have made from parties who are in a position to form a correct opinion on the subject, that the mortality of this epidemic has been very much exaggerated, and may be considered at a minimum rate in proportion to the population; and also that rumours and other causes have created much unnecessary alarm and anxiety. In this respect it must also be remembered that those districts where, as in the north and flat of the city, the population is the largest and poorest, are always found to

[a] These Reports are supplied by Dr. T. W. Belcher, Secretary to the Society.

suffer most when any temporary visitation of dearth or disease is present. In the histories of the epidemic diseases which are to be found in the annals of medical literature, we find that scarlatina occupies a prominent part; epidemics of it in London have been reported by Sydenham, Huxham, Fothergill, and others; in Dublin, by Drs. Graves and Kennedy. The former refers, in his valuable work on clinical medicine, which has been so deservedly praised by Trousseau, to the disease in 1801–2–3–4, and gives a special report of the epidemic scarlatina, which raged with fearful mortality not only in Dublin but simultaneously in other parts of Ireland. Trousseau, in his late work on clinical medicine, in speaking of the treatment of fever by food and stimulants, compliments the Irish physicians, and alludes in the highest terms of eulogy to Dr. Graves; "allow me gentlemen," he says, "to strengthen my own authority by an appeal to that of the man whom I consider the greatest clinical physician of our age, I mean Graves, whom I delight to quote, whom I so frequently consult, and who ought to be your *vade mecum*."

On referring to the interesting paper by my much esteemed friend, Dr. Popham, published in the *Dublin Quarterly Journal* for 1853, on the Climate and Diseases of Cork, the facts of which seem to have been collected with much care and accuracy, and which, from his extensive opportunities, may be looked on as an authentic record on the subject, I do not find scarlatina spoken of up to that period as occurring either endemically or epidemically, so few at all times were the cases, and so trivial, as not to demand particular attention.

Scarlatina, however, is observed to visit Cork annually, either in spring or autumn, with a mild and constant character, its epidemic constitution being stationary, to use the expression of Sydenham; the first appearance of it recorded as assuming in some degree an epidemic form, with any measure of severity, took place in the winter of 1856 and '57, a brief account of which is to be found in the report of the transactions of this society for those years.

I shall first speak of this disease as it occurred under my own observation in my dispensary district, including cases that I saw with others. In order to obtain medical information from the other dispensary physicians, I wrote a circular soliciting replies on the following points:— 1st. Date of its commencing. 2nd. The number of cases. 3rd. Prominent symptoms. 4th. If it seemed to traverse in any direction. 5th. If any cases in the puerperal state presented. I find, on referring to my dispensary register, the date of the first case of scarlatina to be 28th July, 1862; the total number 161; and 35 cases of pure cynanche without eruption, but of a scarlatina character: 12 cases out of the 161 were fatal; of these two died of convulsions—one in 48 hours, the other on 6th day; two died of scarlatina poisoning combined with true typhus; in one of these wine and stimuli ordered by me were countermanded by

an old woman; two died asphyxiated from the most severe pulmonary engorgement and its result; the remaining six died exhausted at various periods from the 6th to the 21st day; two cases died which did not obtain any medical treatment as far as I could learn, one, a fine boy eight years old, whom I saw in *articulo mortis*, from intense pulmonary congestion and cerebral effusion, being ill, or at least complaining, only 48 hours; the second died of asthenic syncope, or failure of the heart's power; his mother told me he had a slight rash out on his skin 14 days before; he swallowed well, had no sore throat, was even running about the street the day before his death, but in a very feeble and languid state. My attention was early attracted to the probable severity which the disease might be found to assume, on hearing of the death of two fine children, within 12 hours of each other, belonging to a butcher living at Sive's-lane, the first of whom was complaining for a week, and was supposed to be suffering from worms; the house was at the opposite side of the lane where I was called to visit a child whom I found had scarlatina; from this date I observed the disease to spread and extend itself, presenting various degrees of severity, and to traverse the district which lies in one of the most elevated, and, I would say, salubrious parts of the city, including Fair-lane, Old Market-place, Cattle Market, Boyer's-street, Bally MacThomas, and the lanes off the right hand side ascending Blarney-lane, in a direction from north-east to west. Early in the disease, about the middle of September, while coming daily into close proximity with some children whose throats were so very bad as nearly to resemble the malignant form of the disease, and required brushing over with various applications, most of them containing chlorine, having been quite well in health at my dispensary on 20th September, I was seized, on the morning of the 21st, with intense and violent headache in the frontal region, chills all over my body almost amounting to rigor, and very severe sore throat; towards the end of the week my tonsils became ulcerated, but no eruption appeared on the skin; after more or less suffering for 10 days, relief was obtained from the most painful difficulty in swallowing, an abscess having formed and burst at the side of the right tonsil. I was compelled to keep the house for a fortnight. This attack I attributed solely to infection, because at the time, or previously, I was not exposed to cold, wet, or night air; when I returned to duty, after a fortnight's absence, I observed the disease more closely, and with much interest, as it began to extend itself all over the district in the direction already stated, and then to appear in the flat of the city with much severity and increased numbers and mortality; also in the south and east, extending itself to Passage, where it was severe, and the cases were very numerous. I have been informed that after a lightness in the amount of the disease in the north-east, where it may be said to have first appeared, that it has returned and increased in numbers and severity

in the neighbourhood of Dublin-hill, Spring-lane, and Blackpool Commons-road, where fever, ague, the measles that visited Cork in the spring of this year, and the scarlatina of 1856 and '57 were observed to be most prevalent, while with me, at this date, one case daily has been the number; I took an opportunity of calling to make inquiries at all the lanes at the western side of the north main-street, and Paul-street, where the disease was said to be most fatal, including Coleman's-lane and Austin's-lane, where public rumour had placed a great number of children lying dead at the same time. I learned, however, that there occurred only three deaths in Coleman's-lane, two in Austin's-lane, one case in Fishamble-lane, five in Paul-street, one in Brown-street, one case in the vicinity of the Custom House. From my own observation the disease presented itself in four different forms or types, and these closely resembled the character of the disease in 1834 and '35, reported by Dr. Graves.

1st. Cases beginning with the ordinary exanthematous pyrexia, succeeded in a period of time, as yet undefined by medical observers, by an efflorescence, more or less extensive, over the surface of the body, and with various degrees of depth of colour or floridness, from the light tinge of roseola to the extreme degree which has been well compared in appearance to a boiled lobster, followed, in some instances, by a tardy and, under favourable circumstances, by a rapid convalescence; in short the ordinary scarlatina that is to be found described in the standard works, such as West, Watson, Copeland, Tweedie, and Burrowes, and more recent authorities, Gairdner, and Trousseau.

2nd. Cases ushered in with high fever and great vascular excitement, followed by cerebral disturbance, often amounting to delirium and convulsions; in these bronchitis and pulmonary engorgement, vascularity of the throat and ulceration of the tonsils, and tumefaction in various degrees of the sub-maxillary and parotid regions were the prominent conditions; this was a favourable form, and yielded to treatment; in some the convalescence was protracted.

3rd. Cases which commenced with bilious vomiting and purging, the gastric form of Graves, the fever accompanying being of a typhoid type; in two cases the fever was true typhus, the eruption coming out slowly, the glands in regions of the sub-maxillary and parotid spaces being in most cases enormously swollen, puffy, and œdematous under the finger, the "scarlatina-bubo" of Trousseau, with purulent discharges from the ears and nostrils; in some cases of this class, large gangrenous abscesses took place in the external fauces, exposing the parts underneath like a dissection. This last state of things I saw to occur in four cases, two of which were fatal; one of them died of hemorrhage from the jugular vein; in the second, before the slough was detached, the left elbow joint became inflamed, and the patient, a child of three years, died of asthenic

syncope, in the mother's arms. An extreme case of this kind is related where the pharynx was perforated, and the food passed through. This was the most grave form.

4th. Cases of severe cynanche, where the fever was high, the eruption so light and trivial, if it ever took place, as to escape notice. This form presented itself mostly in adult persons, terminated favourably, and was not followed by anasarca. Children, on the contrary, often presented with anasarca, where advice was sought for sore throat only, or swelling of the external fauces in various degrees, the dropsical condition not being observed by the mothers.

The disease has been so well described by different writers I have mentioned, as to leave nothing for me to say; but Dr. Graves seems to me, before all, to have observed most closely, and to have written most accurately. As regards the connexion of scarlatina, and of albuminous urine, it does not seem to me to be determined by any fixed law. I should say about three-fourths of my cases had this condition of the urine, more or less excessive in amount, which disappeared, without any permanent effect, as the patient became restored to health. One specimen of urine, which was secreted scantily, resembled in appearance a muddy mixture of raspberry vinegar and water. My friend, Dr. Townsend, jun., very kindly examined it with the microscope, and the appearance presented was a mass of granules, broken down blood corpuscles, and disintegrated epithelium; no fibrinous coats. The urine in other cases varied; one extreme case resembled muddy beer.

Graves, I think, is right in considering the albuminous condition of the urine in this disease to be the result of deranged function, which, in most cases, leaves after it no permanent defect in the structure of the kidneys, and by no means an inflammation, no more than is the engorgement of the spleen in ague. Nor is it of an organic nature in any degree, albumen being found in the urine in variola and other diseases. With respect to the relation between desquamation and the occurrence of dropsy, the latter does not necessarily follow. In two cases of the present scarlatina, where the desquamation was extensive, almost general, anasarca did not follow; the urine, however, was scantier and higher in colour than natural. In many of the cases the convalescence was extremely protracted, and the recovery from the dropsy tedious, in consequence of want of nutritious diet and warm clothing, and the exposure to all the disadvantageous circumstances to which the children of the poor are liable, as well as the negligence and irregularity with which medical directions are carried out in dispensary practice, though these children may have all that may be necessary if sent to one of the local hospitals. The parents were at all times averse to this latter.

With regard to the treatment pursued with my cases, it consisted for the first day—the bowels being attended to—of diaphoretic medicines;

afterwards the administration of a combination of sesqui-carbonate of ammonia and chlorate of potash, which, as far as I could judge, acted beneficially both as a stimulant and as an antiseptic. The local treatment consisted in applications of various chlorine solutions—the solid nitrate of silver for bad ulcers; solutions of the latter in milder cases. The use of muriated tincture of iron mixed with honey, in two proportions; first, one part of the tincture to two of honey; and second, one of the tincture to four of the honey; also with glycerine in equal parts.

The application to the external fauces consisted in chamomile fomentations, and the use of the various liniments; hot bran poultices in some cases where the ulcerated throat was of a bad form. I found the inunction of dilute mercurial ointment of service. In one case, a fine boy of three years, a patient in Dr. Curtis' district, we applied leeches to the external fauces with decided advantage for the time. The child died afterwards from the results of re-infection: the debility of most of the children prohibited the abstraction of blood. One case, a boy aged seven, named Finegin, and residing in Horsewell-lane, was seized, on the 16th day of his convalescence, with the most violent convulsions, which nothing controlled. I bled him from the arm to 10 ounces. He recovered however, and I attributed the convulsions to uremia. Gairdner, the latest writer on scarlatina, quoting the aphorism of Heberden, says that there is no disease where the patient is more apt to be delirious and with less danger; that it is more fatal to well-fed children than to those not so; also, that the reverse happens in typhus. With respect to treatment, he says, neither stimulate, deplete, nor purge, nor put in force any active or perturbative treatment. I must say I differ widely from this professor. As far as the experience of the present scarlatina goes, all the cases required to be sustained, some with wine from the outset; in one case brandy, in small quantities in dilution, was given.

Trousseau confirms by his authority the fact that, in certain epidemics of scarlatina, the virulence of the disease appears to be concentrated in particular limited localities, and that certain families particularly suffer; he refers to the case of the present Bishop of London, who, in the space of one week, lost six or seven children.

The contagious principle of the disease in Cork did not appear subservient to any rule; for instance, one child in a family got the disease, the other children escaped, though in the house and about the sick child. In other cases, one child being attacked, the rest caught it, and all went through favourably—as in a house at the top of Bally Mac Thomas, I had five children lying down together in the same family. All recovered, with dropsy however. In other instances the poisonous principle seemed to multiply and increase itself in its intensity. Of this we had some very painful examples; for instance, one family in Maylor-

street, one in Blarney-lane, one in Great Britain-street, lost three children each. A family on Fair Hill, one at Boyce's-street, one in Paul-street, lost two children each. These were all the cases that I could hear of the kind in the city; the rest were single deaths and scattered. Last week I made inquiry of the Superior of the South Monastery as to the prevalence of the disease in the south parts of the city, and learned from him that none of the children were absent or dead, out of a daily roll of nearly 300 boys. This is, I think, a good test. Much popular error arose, I think, from the number of funerals going to the Botanic Gardens on Sunday; but we know that all funerals are, if possible, held over till Sunday, and every one was supposed to be a death from scarlatina, and the weather for the last month was unusually severe and trying to the ill-fed, ill-clad children of the poor.

In conclusion, I think it may be said that the disease prevailed generally, for the last two months, among the poorer class, especially in the north and flat of the city; that the deaths were few in proportion of the population and the numbers attacked; that no deaths save two took place in the wealthier class, and these of a very distressing nature, both from the virtuous qualities of the individuals, and the short duration of the disease—the first died of asthenia, the second of uremic poison, consequent on the sudden suppression of urine, an unusual symptom; other cases, few in number, have occurred in the same class of life, the character of the disease in them being, as I learn, mild, and not in any way severe. The total number of cases were 1,346, with 125 deaths, which would give a mortality of 10 per cent.

Abstract and Notes of Cases.

Case I.—Honora Leavy, aged 30 years—five months advanced in utero gestation—taken ill with severe chills, headache, constriction of the fauces, on Monday, 26th September; was seen by me on the following Wednesday, and found in high fever; intense headache; copious florid eruption over all the body; superficial ulceration of both tonsils; intense vascularity, almost of a livid hue, of the surrounding mucous membrane; extreme tenderness, but slight swelling of the external fauces; having gone to hospital, she recovered. Anasarca did not follow; she stated that, four days previous, she lost a child, aged eight, with scarlatina, who was apparently quite well in health in the morning, was seized during the day with violent purging and vomiting, and sunk exhausted at 12 o'clock same night; two more of this woman's children got scarlatina—one in a mild form, the other severe. This case illustrates two points:—

A. The violent nature and rapid progress of the disease.

B. The extension of the infection of the disease amongst the members of a family, viz., a mother and three children.

Case II.—William Sullivan, three-and-a-half years, presented at Clarence-street dispensary, 17th November, with general anasarca, which his mother stated had existed for a week; extreme debility; loss of appetite and anorexia; the mother, a careful observant woman, stated the child had not had sore throat or any eruption on the skin previously.

Case III.—Catharine Hanan, nine years, presented in a pyrexial condition, with sore throat, superficial ulceration of both tonsils, and vascularity of the surrounding mucous membrane; the child had been ill 14 days, had no eruption on the skin, and this could not have existed without the mother's knowledge.

Case IV.—Michael Connor, nine years, presented on 13th November, 1862, with pneumonia of the upper lobe of the left lung; was anasarcous; urine scanty and containing blood; had scarlatina 10 weeks previous of so light a nature that he was running about the street all the time.

Case V.—Michael Wigmore, one-and-a-half years, presented on 13th November, with swelling of the sub-maxillary glands, and an aphthous state of the mouth; was visited three weeks previously for inability to draw the breast, severe sore throat, and ulcerated tonsils. There was no eruption of the skin, though carefully looked for by the mother. This case may be considered exceptional to the rules observed of the disease.

Case VI.—Jacob Foster, five years, George's-street, was seized, on 9th September with vomiting and purging; scarlatina eruption slow in coming out, and of a dusky hue; on 14th the throat became sore and ulcerated, while enormous tumefaction of the glands in the external faucial region took place. The child, already debilitated in the extreme, continued to sink, and succumbed in two days after, on the 16th September, seven days from the commencement of the illness; no effort at a rally being made, though wine and other stimuli were exhibited, and every possible care was bestowed on him; he was a healthy, strong boy, not gross.

Case VII.—William Murray, nine years, residing in George's-street, was apparently quite well on 12th November, 1862, and went to school, as usual, in the morning, on returning from which he complained of severe pain in the head, and nausea; then vomited, and continued to do so, at intervals, for three hours. His feet were placed in hot water at bed time, and he got some opening medicine, which was rejected. On 13th his mother thought him better, but he was delirious all through the previous night. On the 14th he was weak and tranquil; about noon his mother observed him lying on his side in the bed, when suddenly, and with a convulsive movement, he threw himself out of the bed; he was replaced in bed, took two or three sips of some whey, and died of syncope in 10 minutes after. In this case there was no eruption or sore throat, and it was remarkable the skin on the surface of the back, and on

the front of the throat, was observed to turn quite black immediately after death, and that on the hands before death, which took place in 44 hours from the commencement of the boy's illness.

Case VIII.—I was called at eight o'clock, on Saturday, 8th November, to visit Denis Finigan, aged seven years, who had been slowly convalescing from scarlatina, and had been under my treatment since 20th October. The peculiarities of his case were:—

1st. The first symptom was referred to the throat.

2nd. The intensity of the fever, accompanied with feeble, dark-coloured eruption, rigors, and delirium.

3rd. The presence of formication, which was most distressing, and lasted a week; his sleep was very much disturbed, attended with grinding of the teeth, tossing about the bed, the eyes half open. He had slight anasarca, scanty and high-coloured urine, and orchitis at the right side.

I found him, on arrival, violently convulsed; he had been so for three-quarters of an hour before my arrival; the face was much congested, and eyes suffused with turgescence of the vessels of the head and neck: the character of the pulse, together with his debilitated condition, forbad venesection at the moment, and the other remedies were cold affusions, which arrested the convulsions for the time, though they recurred with greater intensity: the administration of calomel and croton oil; application of sinapisms to the calves of the legs, together with an enema of turpentine; but nothing seemed to make an impression on the convulsions, which now lasted three-and-a-half hours, the boy perfectly unconscious the whole time, and I was afraid I was about to lose my patient, when, as a *dernier ressort*, I bled him from the arm to 10 ounces, with marked benefit; they began to be feebler, and after a time ceased; the boy recovered, and is now quite strong; but for some time I dreaded the eclampsia might return, in consequence of the anasarca, and the state of urine. The treatment used with this patient, for the removal of this, was turpentine fomentations to the loins twice a day, the exhibition of James's powder at night, and tincture of the muriate of iron; and for drink, wine, porter, and appropriate regimen.

From Dr. Cummins, *Ballintemple; date, 19th November.*

The scarlatina first appeared on 22nd October; up to 26th November I had five cases—one of them was almost *in articulo mortis* when I saw it. The prominent symptoms were sore throat; very scanty renal secretion; severe head symptoms; in one case prostration and want of sleep. The disease has travelled steadily from west to east, the northern part of the peninsula being as yet free from it. No case of disease in the puerperal state came under my notice.

From Dr. Popham, *Senior Physician to the Cork Union Hospital.*

Dear Cremen.—I am sorry that I am unable to give you much information upon your queries; as to the first:—

1st. The first case of scarlatina which came under my notice was on the 5th October, though it had been in the nursery, which is not under my care, from an earlier period.

2nd. I have had very few cases as yet, though I have under my charge all the girls from nine years, and all the Lock children. No case has yet occurred among these children, in all about 150. The cases which I have had were a few adults; one was a case undoubtedly of scarlatinal sore throat, though I was unable to detect the rash; no subsequent anasarca took place. I have had no unfavourable case among these workhouse patients.

3rd. In the cases seen by me at the workhouse, the prominent symptoms were dryness, redness, and swelling of the tonsils, uvula, and velum palati; in one case, ending in abscess, severe headache, chiefly of forehead and vertex; circulation from 108 to 120; animal heat above par; copious eruption of a rash of a bright vivid colour, not persistent, but appearing and disappearing, and again reappearing in the same place; considerable irritability of the stomach, with epigastric tenderness; tongue of a gastric character, &c.

4th. I cannot answer this question.

5th. I saw no case of puerperal complication, up to this date; the lying-in wards of the workhouse have been remarkably free from disease; about three or four women are confined there each week.

From Dr. S. H. Hobart.

I find that the first case of scarlatina in my district occurs on the 1st of September, in Austen's-lane; and that of the first nine cases that appeared, seven of them were in the above lane. There were 96 cases altogether in September; 84 cases in October, and 60 in November. In the first month the greatest number took place in St. Paul's parish, there being 42 out of the entire 96; and, throughout, this parish suffered more than any other. The majority of the deaths were caused, apparently, by an over-dose of the poison; one or two only appeared to have been suffocated by the enlarged glands of the neck. Two died exhausted, apparently from extensive ulceration of the neck, after the bursting of an abscess. Two cases were attacked with violent pain in one or two of the joints, which, after a few days, became swollen and red, and slowly suppurated, followed by similar attacks in other joints, but which were very much relieved by the application of a few leeches. In this epidemic there do not appear to be as many attacked with anasarca as in the epidemic of 1856 and 1857; and where it does occur, it is seldom fatal. I have not met with any case in the puerperal state; and very

few cases at all in adults of well-marked scarlatina, though severe cynanche, partaking much of the character of scarlatina sore throat, has occurred (in houses where scarlatina had existed or was present) without any appearance of eruption; though in one case, when the throat was nearly cured, the latter symptom made its appearance.

From Dr. W. C. Townsend, *Junior Physician to Workhouse Hospital.*

The present epidemic of scarlatina first came under my notice at the Cork Workhouse, about two months ago. Since that time I have had under my care, in that institution, 32 cases. Of those, six are still ill; of the remaining 26, some are discharged well from hospital, and all might be but for the severity of the weather.

In private practice, I have had six cases, all doing well, and likely to continue so.

I saw one case, in Passage, in consultation; the child, a little girl about five years old, was very ill for some days; I left her, apparently convalescent, under the charge of the ordinary medical attendant, but was again summoned this morning, after an interval of five days, and found her comatose, with well-marked symptoms of cerebral effusion.

The mortality in the cases that came under my observation is somewhat under eight per cent. Of these, one died of convulsions six hours after I first saw her. In the second, the poison accumulated in the glands of the throat and neck, and the little patient died from impeded cerebral circulation, owing to pressure on the jugular veins. The immediate cause of death in the third case was pulmonary congestion.

The present epidemic, in my experience, is entirely of an asthenic character, the patients requiring full support, wine and broths, with frequent application of external stimulants to the throat, heart, and lower extremities. In all my cases, the throat was more or less engaged; but I have not seen what I would term a bad case of cynanche maligna.

No cases of mine occurred in the puerperal state.

From Dr. Curtis.

The scarlatina first appeared in my district on the 12th July. The first case was as follows:—A boy, aged four years, to whom I was called, I found in high fever, with rapid pulse, skin very dry, tongue creamy, severe sore throat, glands of the neck very much swollen; he had been ill 24 hours; vomiting was the first symptom. On the night of the 13th was seized with convulsions, and died the next day. The 14th, this boy's brother, aged six years, took the disease; showed the rash early; the throat was very much engaged; he recovered. I did not see another case for 12 or 14 days, when it appeared in three children of one family, on the Commons-road; one died in about 10 days after it showed itself

in Spring-lane, where it remained a fortnight, attacking some 30 children, all under eight years. About the middle of August it seemed to take a peculiar direction, occurring here and there on either side of the hill overlooking the valley of Black Pool, in as far as the fever hospital on one side, and Peacock-lane on the other. Early in September it appeared to descend into the valley, retracing its steps from lane to lane, reaching the Commons and Spring-lane in a very short time. After this I met it in all parts of my district; but in a very severe form in the neighbourhood of Pope's-quay, and the lanes adjoining. Within the last week, 20th November, it has nearly left the city side of my district, and has concentrated itself in localities where it first commenced, viz., Spring-lane, Dublin-hill, Commons-road, and Ballyvolane; and, as it came to this city in a north-easterly direction, so I hope it is taking its departure in the same path.

The prominent symptoms that I have observed are:—

1. The very short stage of incubation.

2. That for one case in which the rash showed itself fully, there were 20 cases of inflamed throats without any rash.

3. That some cases were known to be scarlatina merely by the fact that dropsy occurred in a short time after the children were suspected of having had the disease.

4. The tendency there was to enlargement of the glands, with ulceration externally; and in one instance a child, aged 10 months, in which the external jugular vein was cut across, and death from hemorrhage ensued.

5. The rapid course it occasionally ran. For example:—M. H., aged 20, a girl of robust health, was perfectly well on Tuesday, 18th Nov.; on awaking next morning, felt slight constriction of the throat; thought so little of it that she dressed; and, on attempting to eat her breakfast, got quite sick in the stomach, and vomited for some time; immediately after diarrhea set in; the vomiting and purging continued up to 12 o'clock on Thursday morning, at which time I first saw her. The rash was well out, but of a dusky purple colour. She seemed extremely weak; her intellect was particularly acute; she was ordered stimulants, to be given freely (which I learned afterwards was not done); she expired on Friday morning, 49 hours from the commencement of her illness.

6. No case of the disease occurred in the puerperal state.

From Dr. T. W. Belcher.

My Dear Dr. Cremen,—With reference to your forthcoming report on scarlatina, will you allow me to state a few facts?

1st. In the families of the Permanent Staff of our City Militia there are 55 children, not one of whom has been affected with the epidemic, or anything like it. The officers and men reside in various parts of the

city, such as Wellington-square, Old Magazine-road, College-road, Brandy-lane, William-street, Cove-street, Adelaide-street, Thomas-street, Upper John-street, and Summerhill, North. Their exemption is remarkable, as some of these localities have been severely visited by the disease.

2nd. When in Bandon, this day, I learned from Dr. Ormston, who has been Medical Officer of that Dispensary since 1839, and in private practice for a longer period, that in the town and surrounding district not a single case has occurred.

3rd. Dr. Tuckey, Medical Officer of Bantry Dispensary and Workhouse, in a letter to me, dated November 18th, writes:—"There have been some very bad cases here; one I attended, who died to-day, was only attacked on Saturday. It was the most malignant case I ever saw, and from the first it was evident there was little hope. The subject of it was a strong, healthy young woman, about 20; and her case was very similar to what you described in the Fever Hospital—the face dusky purple, all the body of a livid hue, and the features swollen. Stimulants were quite useless."

Again he writes, November 21st:—"Though occasional deaths from scarlatina take place here still, yet, I think, the disease is milder than it was."

From Dr. R. T. Fowler.

Dear Sir,—In compliance with your request, I furnish you with the number of cases of scarlatina I have met with, and the deaths. First case, dated 29th September:—

Number of cases, ...	112
Deaths, ...	10

I had several cases of anasarca, succeeding the first attack, some of which proved very intractable. The cases were principally children, few adults. I met with no puerperal cases.

From C. A. Allen.

Dear Sir,—The first cases of the scarlatina which I had were about the middle of August. Since then it has been continuous; and I find, as far as my practice is concerned, that fresh cases are appearing in greater numbers. All my cases, with the exception of about a dozen, were in the northern district; but I found it to be directed from north to south, for I attended many cases in Great Britain-street, Clarence-street, and upper part of Fair-lane, before I saw any case nearer to my house. I had not a single case in the puerperal state. In many cases the patient was understood to be attacked, suddenly, with shivering and sore throat, the glands of which were enlarged and swollen; and in those cases where, at the same time, the eruption, instead of the usual florid shade, exhibited a slight purple hue, I found that the patient seldom recovered, but died

comatose, or in convulsions, generally the fourth day, and sometimes even on the second.

Those cases I found mildest where the eruption scarcely appeared, or appeared only on the fauces, with the ordinary papillæ. The sequelæ of scarlatina, more frequently even than the primary disease, came under my care. Anasarca, glandular enlargements, extending behind and below the ears, and in many instances encircling the neck. These cases I found tedious and wearisome to the patient and practitioner; and where pus was formed, the patients, in two cases, died—the discharge being profuse, and of an unhealthy character. In almost every case, from the appearances when I saw them for the first time, I could generally predict the termination. Some cases were as mild as on any former year I have attended. As far as I can make out I had, of scarlatina patients since August, 114, and the number of deaths were seven; but, of that 114, 34 cases remain, of which I did not see the termination—so that seven in 80 died.

From E. J. O'Kelly. *Apothecary to the Hospital.*

One hundred and twenty-nine cases of scarlatina admitted from 1st August, 1862, to 26th November, 1862; of these 15 died.

From Dr. O'Connor, *Physician to the Mercy Hospital.*

The number of cases of scarlatina that came under my notice was 15—the first occurring in the middle of September, in the vicinity of Castle-street, the others in the north side of the city—ranging from Sunday's Well to Montenotte. No puerperal case presented.

From Dr. B. Johnson, *of the Carrigaline Dispensary.*

Dear Sir,—I must apologize for not answering your letter before; but really I was not able to do so, as I was so much engaged in attending scarlatina cases, that were very numerous in this place, but are now considerably on the decrease. The number I attended was very near 100. About 15 per cent. were fatal; a few cases were attended with cerebral symptoms; some with glandular swellings and cellular sloughings; 11 cases were attacked in one house, where the sewers were bad, and dung heaps in the locality; two were attended in the puerperal state; and I think that there is a strong disposition in the constitution to receive it at the particular time, as I have observed in my practice that incipient cases are often the forerunners of the epidemic in that state.

From Dr. Humphries, *Queenstown.*

No. 1. Scarlatina first appeared in Queenstown about the beginning of October.

No. 2. Between that time and the present (Nov. 29th) about 15 cases occurred, two of which proved fatal.

No. 3. The prominent symptoms in the worst cases were excessive inflammation and ulceration in upper and back part of fauces, and in two cases purulent matter exuded from the nose. In all the cases the eruption was well marked.

No. 4. I attended no case in a puerperal state.

From JOHN REARDON, *Undertaker.*

Number of coffins sold from the 18th August, 1862, to 22nd November, 1862, for children under 10 years of age, ...	19
Corresponding period of last year, ...	5
Increase, ...	14

From MR. FLANAGAN, *Undertaker.*

DEAR SIR,—On referring to my books, I find that the number of childrens' coffins charged in, from the 24th of August to 24th November, 1862, amounts to 53; and for the corresponding period last year, 29.

From PATRICK O'SULLIVAN, *Sexton.*

For the month, August, 1861, ...	23		
„ September, 1861, ...	17		
„ October, 1861, ...	6		
„ November, 1861, ...	12		
		58	
For the month, August, 1862, ...	19		
„ September, 1862, ...	27		
„ October, 1862, ...	51		
„ November 22nd, 1862, . . .	42		
		139	

Return of the number of children, under 10 years of age, interred in the Botanic Cemetery for four months, as above, of 1861, and three months and three weeks of 1862.

A Short account of an Immense Tumour of the Lateral Region of the Neck, and its Removal. By DR. EDWARD MURET, of Vevey, Switzerland.

IN the month of September, 1860, a man presented himself to me, suffering from a tumour of about the size of a man's head; this convex tumour presented the form of a segment of a sphere, rather flattened,

and of unequal surface, occupied the side of the neck, and filled up the subtemporal, the parotidean, and the submaxillary spaces. A line drawn from the mastoid process through the meatus externus of the ear to the angle of the eye bounded its superior limits, whilst a line drawn from the fifth vertebra to the lower edge of the larynx included it inferiorly; posteriorly the tumour was confined by the occipital muscles, while in front it was lost near the angle of the mouth. Larger inferiorly than above, its approximate circumference measured 55 centimetres, while its average depth could not have been less than 10 or 12 cent. The patient himself calculated the weight of the tumour to be about four pounds. The posterior half of this growth presented a curved deep sulcus, having its concavity turned forwards, in which was imbedded the sterno-cleido mastoid muscle, which thus divided the tumour in two unequal parts, the largest being in front. The smallest portion was of a semi-lunar shape, appeared movable, and independent of the larger mass placed in front; each half of the tumour was further accompanied by an appendix in the shape of a movable tumour, the one covering the mastoid process of the size of a hen's egg, and the other somewhat larger, filling up the subtemporal space in front of the ear.

The skin covering this mass was tight drawn, and of a bluish red colour; it was traversed by veins of large calibre, and was adherent in the centre to the subjacent structure, whilst at the edges it was free and loose. About the central portion the skin was scarred by the obliterated tracks of old fistulous openings, under which the structures could be felt of hard cartilaginous consistence.

This large mass felt perfectly movable posteriorly, and in its inferior third especially, where it felt quite floating and free from adhesions, but everywhere else it was perfectly motionless, and as if tightly bound down, especially over the parotidean and submaxillary spaces. The posterior half gave unmistakable evidence of fluctuation, as also the general circumference of the mass, but less distinctly. The skin tight drawn and very thin, seemed ready to give way in several places. An exploratory puncture with a trocar gave issue to about a teaspoonful of a reddish yellow viscous fluid. No pulsation could be felt anywhere; the patient never felt any pain in the tumour, which could be freely handled without causing discomfort. A few enlarged but not indurated glands could be felt above the clavicle and sternum, but nowhere else, while the liver, spleen, and thyroid were in a normal condition.

The patient was 28 years of age, tall and strongly built. A fine specimen of scrofulous temperament, with fair hair, large projecting blue eyes, long eyelashes, thick nose, large mouth, and voluminous lips, thin skin, fresh complexion, large feet and hands, with curved nails. His father had died of pneumonia, at an advanced age; his mother still alive, subject only to rheumatism; his brothers and a sister are all extremely

scrofulous, one of them suffering from caries of the tibia. I attributed the unhealthiness of the children in the family to the position of their home, which is built up against a steep aclivity, and completely smothered in by dense and humid plantations. This young man, by trade a mason, had always enjoyed good health, a good workman, not a great drinker, but still fond of keeping a merry Monday, with no work and plenty of feasting. He was extremely anxious that an operation should be tried, as the tumour had greatly increased of late, often interfering with his breathing, and preventing him from work, besides which he wanted to get married. The history he gave of the case was as follows:—About eight years previously he fell from a height of 25 feet, pitching on his face, and sustained a cerebral concussion, which left him in a state of stupor for two days. He completely recovered; but five or six weeks later he took notice of a small kernel, which had attached itself to the ascending ramus of the inferior maxilla of the right side. In the course of six months this kernel had grown to the size of a walnut. He then sought admission in the hospital of Lausanne, where the tumour was punctured, and a small quantity of a sanguinolent fluid escaped, having an extremely fetid smell; the cavity was then injected with iodine; in due time the cyst suppurated, and eventually disappeared. He continued well for a few months, when, having been exposed to cold during his period of yearly military service, he was suddenly seized with pain in the cicatrix, and in a few days the tumour reappeared, and quickly acquired the dimensions of a hen's egg. By the year 1854 the tumour was the size of a large pear, reaching backward to the base of the ear, with but little freedom of motion; he again returned to Lausanne, where, after crucially dividing the skin over the tumour, this last was seized, and a great portion of it included in a tight ligature. The included portion eventually sloughed away, leaving the surrounding tissues greatly indurated. He left the hospital after nine weeks, the wound being healed; but after a time, the tumour having again begun to increase, he placed himself in the hands of a physician, who gave him internal remedies and cauterized the part with potassa fusa. In five weeks the tumour had considerably diminished; it was discharging pus and a glairy viscous fluid; as, however, the suppuration continued, the patient got tired of this treatment, and placed himself under the care of empirics, but gradually became worse, till, in 1856, he entered the hospital of Berne, and came out of it again in a few weeks no better than when he went in. From that date to the present time, but especially during the last two years, the tumour grew steadily larger; from time to time small abscesses formed in its substances, and on more occasions than one some of the large cutaneous veins which ramified over the tumour burst, and gave rise to serious hemorrhage, which compromised the safety of the patient.

The anxious request of the patient, added to the enormous increase of the tumour, the inconvenience it occasioned, and the fact that it was in part cystic and movable, together with the good health of the man, induced me to accede to his wishes, by performing an operation which had been declined by others. The nature, position, and connexions of the tumour convinced me beforehand that no single method of proceeding could be adopted in a case like this; what I most feared was hemorrhage, not only from the superficial vessels, but from the parenchyma and substance of the mass itself; and, to avoid this as much as possible, I determined on making free use of Chassaignac's écraseur.

On the 17th of October, 1860, aided by Drs. de Montet, Favargnié, and Rossier, the patient being in the recumbent position, I surrounded, by two elliptical incisions, the ends of which were connected at the upper and lower ends of the tumour, a portion of integument 19 cents. in length and 11 cents. in breadth. The posterior incision following the course of the sterno-mastoid muscle, which, as above stated, was pressed back by the central mass, and presented a curve with its concavity forwards. The most critical momnet of the entire operation was, when making these two incisions, the hemorrhage from the cutaneous vessels was such that the floor was in a moment flooded with blood. I immediately tied the largest vessels, and, having thus somewhat controlled the bleeding, I proceeded rapidly to enucleate the anterior portion of the mass, using my fingers and nails for that purpose. I found no difficulty in isolating the anterior portion of the tumour until I came on a level with the antero-lateral muscles of the neck; here I again encountered considerable hemorrhage, and had to tie several arteries, as also a large branch of the external jugular. I then proceeded in a similar way to liberate all the posterior half of the tumour, which I succeeded in doing without much loss of blood. During the process of enucleation several of the cysts gave way, discharging a quantity of grey-coloured cheesy matter. Having thus liberated all the circumference of the tumour, it was still adherent by its upper centre to that region, bounded posteriorly by the sterno-mastoid, and anteriorly by the ramus of the jaw; and here it seemed to dip considerably, at the same time that it was firmly attached to the bone in the vicinity of the external meatus of the ear. I now passed the chain of the écraseur, by means of a strong curved needle, through the centre of the mass, on a level with the antero-lateral muscles of the neck; and having severed it here through its attachments, I again passed the chain round the tumour, but in a direction perpendicular to the first, in order to detach it from its parotidean and auricular attachment, which being effected, the whole mass fell off. The écraseur had crushed its way through a mass of hypertrophied glands, which filled up the parotid region, dipping deep down behind the jaw, down even to the carotid. It would have been difficult to decide whether the glandular

masses remaining formed part of the parotid or not; what is certain is, that from the mouth being drawn to the opposite side it was evident that many branches of the pes anserinus had been included in the loop of the écraseur. Having terminated this portion of the operation, we proceeded to remove the part included between the sterno-mastoid and the occipital muscles, where again we met with close adhesions and excessive hemorrhage, which we succeeded in controlling, partly by ligature and partly with perchloride of iron. The operation being now concluded, we found the floor of this extensive wound to be formed of glandular tissue, which I hoped to get rid of by suppuration. The operation had lasted an hour and a half, and had been brought to a satisfactory termination, thanks to the admirable mode in which I had been assisted. The patient had lost a great deal of blood, and was very weak. The edges of the wound were gently brought together by a few strips of adhesive plaster, and the whole covered with a fenestrated dressing and some lint.

After the operation I carefully examined the tumour; it evidently consisted of four different elements. 1st.—The entire circumference, and especially the posterior half, was formed of veritable cysts, some loosely united to each other, some more intimately, but all connected by normal cellular tissue. Their walls were thin, even, and dense; their internal surface like that of a serous membrane; they contained an homogeneous, glairy liquid of a yellowish brown colour. These cysts evidently constituted the portion of the tumour which had been developed last. 2nd.—There were other cysts principally situated in the superior and anterior portion of the tumour, and about the region of the jaw, having denser walls, more uneven, and adhering very closely to the centre of the tumour and the surrounding tissues; their inner surface was not smooth, but presented the appearance of broken down and suppurated glandular tissue, of a greyish blue colour, here and there streaked with blood; examined under the microscope it exhibited pus cells, plenty of free nuclei, many large cells containing one and two nuclei and nucleoli, full of granular matter and oil globules. 3rd.—About the base of the mass, and on a level with the lateral muscles of the neck, there were several lymphatic glands considerably enlarged, but of normal structure. 4th.—There was the central mass, completely adhering to the skin, which, when cut into, presented a glistening, pearly appearance, of considerable hardness. In the centre this mass was of decidedly fibrous structure, with some few nuclei, offering great resemblance to sarcoma, and in it were imbedded some few cysts, with ill-defined walls, containing a fluid analagous to that found in the first. I think it likely that this mass consisted principally of cicatricial tissue, resulting from the action of the several means which had been adopted to destroy the tumour—ligature, caustics, iodine injections, &c., &c. I submitted the tumour to Professor Cloëtta, of Zurich, who considered it cancerous, in different degrees of

development. Doubtless the central mass was degenerated, and presented the character of sarcoma, but it was surrounded by hypertrophied glands of unusual physiological structure, without indurated or lardaceous structures. In no part of this tumour, which originated about eight years ago, could any altered tissue be found, except in the centre, at a spot which had been exposed to the action of many therapeutic agents nor was any indurated gland to be found anywhere in its neighbourhood, neither did any of the many punctures, incisions, &c., take an unhealthy action, throwing out fungoid growths, &c., but always quickly healed up.

This patient is only 28 years of age, he never suffered from lancinating pains; he has not the least appearance of malignant disease in his countenance, although he offers a most perfect specimen of the scrofulous diathesis. I am therefore inclined to look upon it as simply a scrofulous tumour, and the hardened central mass as the result of remedial applications.

After the operation there succeeded but little inflammatory reaction; there was great suppuration; and, after a time, some of the glandular masses remaining were removed by ligatures and potassa fusa; by the middle of December the wound was completely closed; the thickness of the surrounding tissue was disappearing under the application of iodine; and by the end of the year the patient left the hospital. He is now in good health, and able to follow his trade, nor is there for the present any tendency to a fresh growth or other enlargement.

CLINICAL RECORDS.

Case of Acute Inflammatory Phymosis. By Christopher Fleming, M.D., M.R.I.A., Surgeon, Richmond Hospital; Visiting Surgeon, Dr. Steevens' Hospital, &c., &c., &c.

A policeman, aged about 25 years, and of stout build, was brought to the Richmond Hospital, in the middle of the night, in July last, having been accidentally found, by one of his comrades, in bed, faint and in a state of extreme weakness. When he reached the hospital he was perfectly blanched and almost pulseless, and on examination his trowsers and under-clothes were discovered to be drenched with blood. On exposure, the penis and scrotum were concealed from view by an enormous mass of coagulated blood, a portion of which protruded so much beyond the rest as to give the pupil in charge the idea that there was a large fungoid growth from the right side of the penis, and that from this the hemorrhage originated. In the weak state of the man any satisfac-

tory history of the case at my visit was utterly impossible to learn; and his prostration was so great that the immediate command of the bleeding, hitherto uncontrollable, was now imperative. I rapidly removed as much of the coagulated blood as I could, and at once perceived that I had to deal with a most aggravated case of "acute inflammatory phymosis"—that the projecting coagulum alluded to had burst through an irregular, jagged, gangrenous opening, about the size of a shilling, on the right side of the prepuce, and about an inch and half from its orifice—that bright arterial blood was welling up through this mass—and that on tracing the source of this hemorrhage it proceeded from a deep excavated ulcer situated on the corresponding part of the glans penis underneath. I at once slit up the prepuce, in the mesian line, in front, and trimming it on each side towards the frenum, without any consideration for the inflammatory conditions present, carefully applied the requisite dressings, and directed the usual general treatment, in which Hoffman's anodyne and Battley's sedative constituted the principal therapeutic agents. The flow of hemorrhage was immediately stayed without the necessity for any ligature, and never recurred—the wounds and ulcerated surfaces healed kindly, and the man was convalescent within a month from the date of his admission into hospital. He remained afterwards well, as far as I could learn, a deep chink yet existing in the site of the ulcer; this, during the erect state of the organ, produced some inconvenience from the crooked shape it necessarily assumed, a portion of the glans and an adjoining portion of the right crus of the penis having been obviously involved in the ulceration. It was ultimately ascertained that the situation of the original ulcer on the penis was on the right side of the corona glandis—that the use of mercury was commenced, the man still performing his usual duties, and that acute inflammatory phymosis supervened, followed by gangrene of the prepuce and the destructive ulceration noted.

Cases such as the above, the symptoms of which are, perhaps, too briefly reported, must be familiar to every hospital and dispensary surgeon. Inflammatory phymosis presents itself from day to day—sometimes very acute: again, semi-acute or chronic. It is to be met with at all periods of life—in the infant, in the child, in adult life, and in old age, and at each period different causes may produce it, and different treatment may be suitable. The summary one of the operation of simple section of the prepuce, or other more complicated operation, is often, however, demanded. Want of cleanliness, excoriations, or warty growths, constantly give rise to the affection; but above all, and amongst all, no more rife cause originates it more frequently than ulceration between the glans and prepuce, especially along the corona glandis, or near the frenum, and, be such ulceration specific or not, the greatest circumspection is required when unequivocal evidence of the attack manifests itself. It would be quite out of place, indeed, perhaps,

irrelevant, to consider this subject in detail, but there are two symptoms, the supervention of either of which, in the progress of acute inflammatory phymosis, would appear to demand the utmost caution and prompt action of the surgeon. The one is, retention of urine, partial or complete, from the general tumefaction of the preputial integument or contraction of the preputial orifice, and the other is, hemorrhage. The most rapid destruction of this most important organ will be the result of neglect, and lesions will be entailed which no surgical ingenuity or skill can remedy. Numerous cases might be instanced, as illustrative of this. The comparatively trifling one of gangrene of the prepuce, the more serious one of gangrene of the glans penis, and the still more serious one of exposure of the urethra by ulceration or by sloughing, must suggest themselves to the reflecting surgeon. However he may hope for a successful issue by those local and those general appliances familiar to all practical surgeons in very many and very extreme cases, in the special cases I allude to, there is no alternative; the future comforts of his patient will be otherwise, within a very few hours, altogether compromised. The surgeon must, hence, be prompt—he must have recourse to circumcision, no matter what the state of parts may be. Local inflammation is at its height, the organ is enormously swollen; and this, in the majority of instances, so much, from the large infiltration of its tegumentary covering, that it is no exaggeration to say that the end of the prepuce is often two or three inches in advance of the situation of the glans. The surgeon's operation, then, must be "*l'operation de convenance;*" let him first fairly slit up the prepuce until he so exposes the glans as to satisfy himself that it is free from constrictions of any kind, and let him, at the same time, remove any redundant portions of the prepuce, confining his incisions within those limits which will ensure a shapeful protection of the glans.

This mode of treatment, in the more aggravated stages of "acute inflammatory phymosis," I have rarely seen followed by any untoward results. However irregular in its curative stages the original seat of ulceration may be, the fresh wound-surfaces progress most favourably; neither phagedena nor gangrene attacks them, although the lines of incision made have been in the immediate seat of such conditions, or in the vicinity of the flaps removed. The dressings I apply to the bleeding surfaces are usually narrow slips of lint dipped in the compound tincture of benzoin, and over them a compress of requisite size is placed. This compress may be shaped somewhat like a Maltese Cross, with an opening in its central portion for the orifice of the urethra; it is then damped with cold or iced water, and so moulded to the glans penis as to embrace it fully, and so lapped over the recent wound-surfaces that a narrow strip of lint or calico will secure its edges, and, at the same time, exercise a gentle and uniform compression around. I mean not to say that the hemorrhage

supervening on this operative proceeding will always be commanded as above. It will happen that an artery or two may bleed so sharply as to require a ligature, and this particularly in the vicinity of the frenum; but, as regards my experience, this is rather the exception than the rule. Very much will depend on the proper local management as to position, as to temperature, as to traction of any kind on the organ affected—but these details would require more space than is here admissible. The general treatment, moreover, is equally important. I find no combination of remedies more successful in the earlier periods of those cases than tartar emetic, in doses suited to the age and constitution of the patient; and this combined with some one of the preparations of opium, in tolerably large doses, kept under check, however, as to any absolute narcotic effect, and corrected by proper attention to the nutritive functions. Stimulants must be exhibited according to the special circumstances of the case.

I have not alluded to the immediate after-treatment suitable to such cases as the above, neither to that treatment which might be deemed requisite at a later period. I will merely incidentally remark that I have avoided the exhibition of mercury with any other object than that of an aperient or purgative, and I have not had reason to regret it. I have given to the violent inflammatory processes and their results the chance of producing the same salutary destructive action upon the specific disease, if it existed, which is occasionally sought for from caustic or from escharotic applications; and if constitutional symptoms should ultimately happen to spring up, I find that they are of a comparatively mild and manageable form, and not of that mongrel, worrying character which too often baffle the surgeon in their treatment, and impress his patient with most unfavourable notions, indeed, as to his therapeutic remedies.

A Case of Epithelioma, and Removal of a Portion of the Lower Jaw. By P. C. Smyly, M.D., T.C.D., Surgeon to the Meath Hospital.

A. M., aged 40, presented himself at the dispensary of the Meath Hospital early in February, 1862. He complained of a tumour under his tongue, which, from its size, rendered it difficult to get solid food past the tongue; and the frightful stench kept him in a constant state of nausea. On looking into the mouth, I found a tumour occupying the whole floor of the mouth, the portion of the tongue about the frenum, and attached to the central portion of the lower jaw; all the front teeth were loose. The tongue was so much pushed back by the tumour that the tip could not reach within a quarter of an inch of the front teeth. The surface of the tumour was in a state of slough. I took him into hospital, gave him chlorinated soda to wash his mouth, and tonics internally. During his stay in hospital the disease increased rapidly in size.

The patient was told that the disease could not be removed unless by

operation. The probable result—namely, that the operation would only remove the diseased part, and that the disease would, in all probability, return, and also the dangers of the operation—were fully laid before him. He at once said:—"I'll undergo any punishment to get rid of it. I would rather have my head cut off than have it remain as it is." Under these circumstances operation was decided on.

Operation.—The patient was chloroformed in the semi-erect position on the operating table. The cheek was well drawn upwards, so as to stretch the integuments. A scalpel was pushed up through the soft parts, external to the jaw, and anterior to the facial artery where it crosses the bone, so as to separate the parts from the bone. Into this narrow wound a Hay's saw was introduced on the flat, and then turned against the bone. The cheek being now let loose, the internal edge of the wound kept quite clear of the teeth of the saw, the elasticity of the parts drawing it inwards, and the bone was partially divided. The same steps were repeated on the other side. The bone was then cut through on each side with a cutting bone forceps. The integuments were again stretched over the jaw at both sides, and the small incisions joined together by one running along the lower edge of the jaw. With one sweep of the knife the soft parts were separated from the central portion of the bone. This was forcibly drawn through the wound, and the dissection commenced at the base of the tongue, and was rapidly completed; four small vessels required ligature; an enlarged gland (the submaxillary) was then dissected out. The submaxillary artery which passed through the tumour was divided. The ligature fixing the tongue was passed out through the mouth, and the wound closed with silver suture. The man was then sent to bed and given some wine.

On Tuesday, the day after the operation, the report was:—"He has rallied completely, pulse 108, bowels regular, slept well, and at the hour of visit was reading his newspaper.

"Wednesday.—The ligature securing the tongue was removed. Saturday.—The patient sleeps well, drinks from a cup, and is commencing to articulate. The external wound is healing by first intention; and the internal surface is granulating well."

The case progressed well, and the patient left the hospital with the wound completely healed, and speaking quite distinctly. He remained perfectly free from disease for about two months, when it began to return in the cicatrix. At the end of the third month the disease was most extensive.

The peculiarity of the operation above described is, that the bone was completely divided before the large incisions were made. That is to say, the most painful part of the operation was completed under the full influence of chloroform, before hemorrhage could render the anesthetic condition of the patient dangerous.

BOOKS RECEIVED, MAY, 1863.

1. Anatomy of the parts concerned in femoral rupture. By Geo. W. Callendar, Assist. Surg. and Demonstrator of Anatomy at St. Bartholomew's Hospital. London: Churchill and Sons. 1863. 8vo, pp. 51.

2. Medical psychology, comprising a brief exposition of the leading phenomena of the mental states, and of the nervous apparatus through which they are manifested, with a view to the better understanding and elucidation of the mental phenomena or symptoms of disease. By Robt. Dunn, F.R.C.S. Eng., &c. London: Churchill. 1863. Fcap. 8vo, pp. 87.

3. Illustrations of the surgery of the female pelvic organs, in a series of plates taken from nature, with physiological and pathological references. By Henry Savage, M.D., F.R.C.S., Phys. to the Samaritan Hospital for Women. London: J. Churchill and Sons. 1863. 4to.

4. The aural surgery of the present day. By Dr. W. Kramer. Berlin. Translated by Henry Power, F.R.C.S., M.B., &c., New Sydenham Society. 1863. 8vo, pp. 154.

5. Atlas of portraits of diseases of the skin, issued by the New Sydenham Society. 3rd fasiculus portraits, VII., VIII., and IX.

6. Statement by Dr. Murchison. Pamp.

7. On ringworm, scall-head, baldness, and other parasitical diseases of the head and face, with an appendix on the constitutional relations of diseases of the skin and principles of treatment. By George Ross, M.D., &c. London: Renshaw. 1862. Fcap. 8vo, pp. 138.

8. De la glycérine de ses applications a la chirurgie et a la médicine. Par M. Demarquay. Paris: Asselin. 1863. 8vo, pp. 240.

9. Clinical memoirs on diseases of women. By A. H. M'Clintock, M.D., &c. With engravings. Dublin; Fannin and Co. 1863. 8vo, pp. 435.

10. A systematic handbook of volumetric analysis, or the quantitative estimation of chemical substances by measure. By Frs. Sutton, F.C.S., &c. London: Churchill and Sons. 1863. Post 8vo, pp. 282.

11. Stammering and stuttering, their nature and treatment. By Jas. Hunt, Ph.D., &c. Fifth Edition. London: Longmans. 1863. Post 8vo, pp. 256.

12. On effusions of blood in the neighbourhood of the uterus, or the so-called peri-uterine hematocele. A thesis for the M.D. degree. By H. A. Tuckwell, M.A., M.B., Oxon., &c. Oxford and London: Parkers. 1863. Pamph. pp. 41.

13. Hints on the treatment of strangulated hernia. The properties of opium as antiphlogistic, anatomically and physiologically explained. By John O'Reilly, M.D., F.R.C.S.I. New York: W. Wood. 1863. Pamph. pp. 24.

14. The Stethoscope: a quarterly review of the modern practice in consumption and chest diseases. No. 11. London: Davies.

15. A treatise on gall-stones, with their chemistry, pathology, and treatment. By J. L. Thudicum, M.D., &c. Illustrated with plates. London: Churchill and Sons. 1863. 8vo, pp. 232

16. Excelsior, or Murray's royal asylum literary gazette. Nos. XVI. and XVII. Perth. 1863.

17. Studies of abortion. By H. R. Storer, M.D., of Boston. No. 1. Pamphlet. Reprint. Boston. 1863.

18. The convulsive diseases of infancy. By Thomas Ballard, M.D., &c. London: Churchill. 1863. Reprint. Fcap. 8vo, pp. 34.

19. The international aspects of quarantine legislation. By Gavin Milroy, M.D., &c. Reprint. London: M'Corquodale & Co. 8vo, pp. 12.

20. A handbook of uterine therapeutics. By Edward J. Tilt, M.D., &c. London: J. Churchill and Sons. 1863. Post 8vo. pp. 309.

21. Deafness practically illustrated, being an exposition of the nature, causes, and treatment of diseases of the ear. By Jas. Yearsley, M.D., &c. Sixth Edition. London: J. Churchill and Sons. 1863. 8vo, pp. 301.

22. Norges officielle statistik, udgiven i aaret. Christiania. 1861. 4to, pp 144.

23. Ladegaardso model farm, near Christiania, belonging to H. M. King Charles XV. Drawings and models of agricultural implements for the Norwegian national schools. 4 sheets.

24. Geologiske undersogelser, Bergens omegn af Th. Hiortdahl og M. Irgens—Med et Tillæg om Fjeldstykket Mellem Lærdal og Urland Samt om profilet over Filefjeld, af Dr. Theodor Kjerulf. Christiania. Malings. 1862. 4to, pp. 34.

25. Beskrivelse over Lophogaster typicus af Dr. Michael. Sars Prof. ved Christianias universitet. 1862. 4to, pp. 37.

26. Karl-Johans Forbundet, af P. A. Munich, Professor. Christiania. Jensens. 1857. Fcap., pp. 26.

27. Synopsis of the vegetable products of Norway. By Dr. F. C. Schübeler. Translated from the MS. by Rev. M. A. Barnard, B.A., British Chaplain. Christiania. 1862. 4to, pp. 31.

28. An account of the medical evidence connected with the trial of Jessie M'Lachlan, at the Glasgow Autumn circuit. 1862. By G. H. B. Macleod, M.D., &c. Reprint. Pamphlet. 1863.

29. The Calabar bean as a new ophthalmic medicine. By D. A. Robertson, M.D., &c. Reprint. Pamphlet. 1863.

30. Waste: a lecture delivered at the Bristol Institution. By J. A. Symonds, M.D., &c. London: Bell and Daldy. 1863. 8vo, pp. 51.

31. The urine of health and disease; being an exposition of the composition of the urine, and of the pathology and treatment of urinary and renal disorders. By A. H. Hassall, M.D., &c. 2nd edition. London: J. Churchill and Sons. 1863. Post 8vo, pp. 416.

32. A year book of medicine, surgery, and their allied sciences for 1862. New Sydenham Society. London. 1863. 8vo, pp. 520.

33. The British journal of homeopathy. No. LXXXIV.

34. On human entozoa; comprising the description of the different species of worms found in the intestines and other parts of the human body, and the pathology and treatment of the various affections produced by their presence. To which is added a glossary of the different terms employed. By William Abbotts Smith, M.D., &c. London: Lewis. 1863. 8vo, pp. 251.

35. Menton: essai climatologique sur ses différentes régions. Par le Dr. Jacques François Farina. Paris: J. B. Baillière et Fils. 1863. Fcap. 8vo, pp. 72.

36. The seventh annual report of the state of the united lunatic asylum for the county and borough of Nottingham. 1862. 8vo, pp. 29.

37. The report of the Armagh district lunatic asylum for year 1862. By Robt. M'Kinstry, M.D., &c.

38. Nice et son climat. Par Edwin Lee, M.D., &c. Paris: Baillière et Fils. 1863. Fcap, pp. 162.

39. The social science review: a journal for the advancement of social science, and for literary and scientific intelligence. Vol. II. No. 45.

PERIODICALS WITH WHICH THE DUBLIN QUARTERLY JOURNAL IS EXCHANGED.

GREAT BRITAIN.

1. The British and Foreign Medico-Chirurgical Review. Churchill.
2. The Edinburgh Medical Journal. Oliver and Boyd.
3. The Retrospect of Medicine. Edited by W. Braithwaite. Simpkin and Co.
4. The Half-yearly Abstract of the Medical Sciences. Edited by W. H. Ranking, M.D., and C. B. Radcliffe, M.D. Churchill.
5. Pharmaceutical Journal. Churchill.
6. The Lancet.
7. The Medical Times and Gazette. Churchill.
8. Association Medical Journal. Honeyman.
9. The Medical Circular. Harris.
10. Medical Critic and Psychological Journal. J. W. Davies.
11. The Asylum Journal of Mental Science. Churchill.
12. The Glasgow Medical Journal. Mackenzie.
13. The Athenæum.
14. The Dublin Medical Press.
15. The London Medical Review. Fieldson and Jary.
16. The Natural History Review. Williams and Norgate.
17. The Dublin Quarterly Journal of Science. M'Glashan and Gill.

INDIA.

18. The Indian Annals of Medical Science. Calcutta: Lepage and Co.
19. Transactions of the Medical and Physical Society of Bombay.
20. The Madras Quarterly Journal of Medical Science. Madras: Gantz, Brothers.

AUSTRALIA.

21. The Australian Medical Journal. Melbourne: Wilson and Mackinnon.

AMERICA.

22. The American Journal of the Medical Sciences. Edited by Isaac Hays, M.D. Philadelphia: Blanchard and Lea.
23. The American Medical Times; being a Weekly series of the New York Journal of Medicine. New York.
24. The American Journal of Science and Arts. Conducted by Professors Silliman and B. Silliman, Jun., and J. D. Dana, &c. New Haven.
25. Charleston Medical Journal and Review. Charleston, U.S.
26. The American Journal of Insanity, Utica, N.Y. State Lunatic Asylum.

FRANCE.

27. Gazette Médicale de Paris. Paris.
28. Gazette Hebdomadaire de Médecine et de Chirurgie. Paris: Victor Masson.
29. Journal de Chimie Médicale, de Pharmacie, de Toxicologie, et Revue des

nouvelles scientifiques, nationales et étrangères, &c. Paris: Labé.

30. Journal de Pharmacie et de Chimie, &c. Paris: Victor Masson.

31. L'Union Médicale. Paris.

32. La Lancette Française, Gazette des Hôpitaux civils et militaires. Paris.

33. Revue Médicale Française et étrangère. Publié par le Docteur Sales-Girons. Paris.

34. Archives Générales de Médecine. Paris: Asselin.

35. Bulletin de l'Académie de Médecine. Paris: Baillière.

36. Mémoires de l'Académie de Médecine.

37. Revue de Thérapeutique Médico-Chirurgicale. Paris: Dr. A. Martin-Lauzer.

38. Journal de Médecine et de Chirurgie Pratiques a l'Usage des Médecines. Par Lucas-Cham-pionnère. Paris.

39. Journal des Connaissances Médicales et Pharmaceutiques. Paris.

40. Annales Médico - Psychologiques. Par MM. Baillarger, Cerise, et Moreau. Paris: V. Masson.

41. Bulletin Général de Thérapeutique, Médicale et Chirurgicale. Par le Docteur Debout. Paris.

42. Répertoire de Pharmacie. Par M. le Dr. Bouchardat.

43. Gazette Médicale de Strasbourg.

44. Journal de Médecine de Bordeaux.

45. L'Union Médicale de la Gironde. Bordeaux.

46. Annales D'Hygiène Publique et le Médecine Légale. Paris.

47. Gazette Médicale de Lyon. Dirigée par le Dr. P. Diday.

48. Journal de la Physiologie de l'Homme et des Animaux. Paris: Masson.

49. Montpellier Médical Journal mensuel de Médicine. Montpellier: Boehm et Fils.

BELGIUM.

50. Mémoires et Bulletin de l'Académie Royale de Médecine de Belgique, Brussels.

51. Annales D'Oculistique. Brussels.

52. Annales et Bulletin de la Société de Médecine de Gand.

GERMANY.

53. Zeitschrift für rationelle Medicin. Herausgegeben Von Dr. J. Henle und Dr. C. v. Pfeufer. Heidelberg and Leipzig: C. F. Winter.

54. Vierteljahrschrift für die praktische Heilkunde, herausgegeben von der medicinischen Facultät in Prag. Prague: Karn André.

55. Canstatt's Jahresbericht über die Fortschritte der gesammten Medicin in allen Ländern. Redigirt Von Pr. Scherer-Pr. Virchow, und Dr. Eisenmann. Würzburg: Stahel.

56. Medicinisch-chirurgische Monatshefte, Kritisches Sammeljournal für praktische Heilkunde, Herausgegeben von Dr. F. E. Friedrich in München, Erlangen, Ferd. Enke.

57. Aerztliches Intelligenz-Blatt. Organ für Bayerns Staatliche und öffentliche Heilkunde. Munich: C. Kaiser.

58. Wochenblatt der Zeitschrift der k. k. Gesellschaft der Aerzte in Wein (Beilage zu den Jahrbüchern). Redigirt von A. Duchek, C. Langer, A. Schauenstein. Leipzig: Hinrichs.

PRUSSIA.

59. Archiv für pathologische Anatomie und Physiologie, &c. Herausgegeben von R. Virchow. Berlin: G. Reimer.

60. Archiv für Klinische Chirurgie. Herausgegeben von Dr. B. Langenbeck. Redigirt von Dr. Billroth, Prof. der Chirurgie, und Dr. Gurlt, Docent der Chirurgie in Berlin. Berlin: Hirschwald.

61. Allgemeine Zeitschrift für Psychiatrie und psychisch-gerichtliche Medicin. Herausgegeben von Damerow, Flemming, Roller durch Heinrich Laehr. Berlin: Hirschwald.

HOLLAND.

62. Archiv für die Holländischen Beiträge zur Natur-und Heilkunde, Herausgegeben von F. C. Donders, Utrecht, und W. Berlin, Amsterdam, Utrecht: C. Van Der Post.

NORWAY.

63. Norsk Magazin, for Lægevidenskaben. Udgivet af det medicinske Selskab i Christiania. Redigeret af W. Boeck. A. W. Münster. Lund: Voss. Christiania: Feilberg and Landmark.

SWEDEN.

64. Hygiea, Medicinsk och Farmaceutisk Manads-skrift. Stockholm.

DENMARK.

65. Bibliothek for Læger. Udgivet af Direktionen for det Classenske Literaturselskab. Redigeret af Dr. A. Brüniche. Copenhagen: Reitzels.

ITALY.

66. Bulletino delle Scienze Mediche. Publicato per cura della Società Medico-Chirurgica di Bologna.

67. Giornale Veneto di Scienze Mediche.

68. Lo Sperimentale ovvero Giornale Critico di Medicina e Chirurgia per sevire al Bisogni dell Arte Salutare. Direttore Prof. C. C. M. Bufalini. Florence.

INDEX

TO THE THIRTY-FIFTH VOLUME.

Abscess, mammary, 404—pelvic, 389, 393.
Acetabulum, Prof. R. W. Smith on fracture of, 174.
Air and water in relation to public health, Gairdner on, *Rev.*, 119.
Albuminuria, 238.
Amnion, M'Clintock on dropsy of, 188.
Amyloid degeneration of kidney, 226.
Analysis, volumetrical handbook of, *Rev.*, 123.
Aneurism of aorta, Mr. Symes on, 169—Dr. Townsend on, 198.
Aorta, aneurism of, Mr. Symes on, 169—Dr. Townsend on, 198.
Apnea, cardiac, 138.
Arsenic in secondary syphilis, 6.
Asclepiad—clinical essays, by B. W. Richardson, *Rev.*, 130.
Ashton, T. J., on prolapsus, fistula in ano hemorrhoidal affections, their pathology and treatment, *Rev.*, 414.
Banks, Dr., on hypertrophy of the heart and adherent pericardium, 168.
Barton, Dr., on disease of prostate gland, 170.
Beatty, Dr., address to Dublin obstetrical society, 177—on the progress of obstetrical science, 180—on chloroform, 180—on use of forceps, 181—on ovariotomy, 183—on vesico-vaginal fistula, 184—on a large calculus expelled from the bladder by natural efforts, and on the several methods of removing calculi from the female bladder, 473.
Belcher, Dr. T. W., on treatment of continued fever and other acute diseases, 200—on change of type in disease, 209.
Bell, Sir Chas., method of treating dislocation of thumb, 140.
Belladonna in poisoning by opium, by R. Macnamara, 246.
Bladder, triticum repens in diseases of, 115.
Brain, atrophy of, 451.
Breast, atrophic cancer of, 460.
Bright's disease of kidneys, pathological changes in, 225.
Brown-Séquard, views of, on epilepsy, 89.
Butcher, Mr., reports in operative surgery, 257—on elephantiasis arabum, 258—on excision of knee joint, 269—on "Butcher's saw," 275—on excision of upper jaw, 279, 288—on hare lip, 292.
Byrne, Dr., on the expulsion, by a female, of a large vesical calculus, 186.

Calculus, a large vesical, expelled by a female, 186, 473—on the several methods for the removal of calculi from the female bladder, 474.
Cancer, atrophic of breast, 460—of gluteal region, 465—of heart, lungs, &c., 304—of stomach, intestines, uterus, and ovaries, 462, 469.
Carbonic acid, excretion of, 406.
Castration, 171, 173.
Catheterism of ear, 151.
Cellulitis pelvic, puerperel, 390.
Cerebrum, irritation of, 350—state of in epilepsy, 87—syphilitic disease of, 48, 457.
Chambers, T. K., the renewal of life, clinical lectures illustrative of the restorative system of mdicine, *Rev.*, 153.
Children, diseases of, familiar letters on, by J. B. Harrison, *Rev.*, 442—rare nervous, Mr. Cox on, 344.
Chloroform, Dr. Beatty on use of, 180—Dr. Johns on injurious effects of in labour, 353.
Chorion, dropsy of, 196.
Chorio-iritis, 365.
Churchill on a modification of Hodges' lever pessary, 477.
Civilization as a cause of change of diathesis, 116.
Climatology, works on, *Rev.*, 434.
Clinical records, 241, 497.

Collis, M. H., remarks on gonorrhea and syphilis, 1—case of melanosis, 241—on cancer, 460, 466.
Conjunctiva, anatomy and physiology, Krause on, *Rev.*, 157—glands of, 165—lymphatics in, 165.
Convulsions, salaam, 344.
Cork Med. and Surgical Society, Trans., 198, 478.
Corradi on the modern increase of scrofulo-tubercular disease, and on the change of diathesis, *Rev.*, 115.
Cox, W. J., on rare nervous diseases of children, 344—on preventible causes of disease, *Rev.*, 441.
Cranium, diminution of, 452.
Cremen, Dr., on scarlatina, 478.
Crepitation, pulsatile pulmonic, 135.

Debout on congenital umbilical hernia, *Rev.*, 98.
Delaye, M., on mania alternating with melancholia, 443.
Denmark, suicide in, 459.
Devon, Shapter on climate of, *Rev.*, 434.
Diabetes mellitus, cases of, 66, 252—Rev. S. Haughton on phenomena of, 66.
Diathesis, Corradi on change of, *Rev.*, 116.
Digitalis in mental disease, 457.
Diphtheria, Dr. E. Hamilton on, 167—Dr. Stokes on, 175.
Diseases, acute and fever, Dr. Belcher on treatment of, 200—acute, Professor O'Connor on treatment of, 213—Belcher on change of type in, 209—Corradi on do., 116—Shapter on do., 440—Cox on preventible causes of, *Rev.*, 441.
Duncan, J. F., on syphilitic insanity and epilepsy, 48.

Ear, air douche for, 151—catheterism of, 151—diseases of, Tröltsch on, *Rev.*, 146—inflammation of middle ear, 150—malleus, fracture of, 153—otitis, 148, 152—otorrhea, 148—specula, 147.
Elephantiasis Arabum, Butcher on ligaturing femoral artery in, 258.
Empyema, 312, 380.
England, Suicide in, 459.
Epilepsy, ch. cerebritis in, 87—circulation in, 88—med. oblong in, 87—pituitary body in, 87—symptoms, treatment, and relation to other chronic convulsive diseases, J. R. Reynolds on, *Rev.*, 83—syphilitic and insanity, 48—trachelismus in, 86.
Epithelioma, case of, by Mr. P. C. Smyly, 500.
Eustachian tube, catheterism of, 151.
Evolution, spontaneous, 471.
Exomphalos, 99.
Eye, conjunctiva, Krause on, 157—*Rev.*, 157—Hildige on iridectomy for certain diseases of, 365—lachrymal passages of, Foltz on, *Rev.*, 157—reflex disease of from traumatic origin, 58.

Fever and other acute diseases, Dr. Belcher on treatment of, 200.
Fistula, in ano, 414, 416—vesico vaginal, Dr. Beatty on, 184—causes of, 427.
Fleming, Mr., on acute inflammatory phymosis, 497.
Foltz on the anatomy and physiology of the lachrymal passages, *Rev.*, 157.
Food as affecting diathesis, 116.
Foot, Dr., on ulcer of stomach, 173.
Forceps, Dr. Beatty on use of, 181—Dr. Murphy on use of, 420.
Fracture of acetabulum, Professor R. W. Smith on, 174—of humerus, Mr. Smyly on, 169.
Fungi as the cause of a disease like measles, 60—of diphtheria, 176.

Gairdner on public health, in relation to air and water, *Rev.*, 119.
Glaucoma, 366.
Gleet, Mr. Collis on, 4.
Glottis, spasm of, 345.
Gonorrhea and syphilis, Mr. Collis on, 1—injections in, 2.
Gordon, Dr., on pleuritic effusion, 373.
Gross, a system of surgery by, *Rev.*, 139—on closure of the jaws, 324.

Hall, Marshall, views of, as to epilepsy, 86,
Hamilton, Dr. E., on diphtheria, 167—Mr., on adipose tumours, 468.
Hare-lip, Mr. Butcher on a case of double, 292.
Harrison, J. B., familiar letters on diseases of children by, *Rev.*, 442.
Haschisch in mental disease, 457.
Haughton, Rev. S., on diabetes mellitus, 66.
Hayden, Dr., on cancer of stomach, 469.
Head, injuries of, as a cause of epilepsy, 94.
Health of navy, Milroy on, *Rev.*, 119—public, Gairdner on, *Rev.*, 119.
Heart, and lungs, cancer of, 304—disease of, and aortic aneurism, 198—extreme compression of, 378—hypertrophy of, and adherent pericardium, 168—reduplication of second sound, 133.
Heath, Mr., on the causes and treatment of closure and immobility of the jaws, 323.
Hematocele of tunica vaginals, Professor R. W. Smith on, 171—pelvic, 398.
Hemorrhage, uterine, 430.
Hemorrhoids, 414, 417.
Hepatocele, 99.

Hepatomphale, 99.
Hernia, congenital umbilical, Debout on, *Rev.*, 98—operations for strangulated, and their results, by J. Smyly, 313.
Hildige, Dr., on the employment of iridectomy for the cure of certain diseases of the eye, 365.
Hodge, Dr., lever pessary of, 477.
Hughes, Dr. J. S., on cystic disease of testicle, 172.
Humerus, Mr. Smyly, on comminuted fracture of, 169.
Hydrencephaloid disease, 350.

Insanity, syphilitic and epilepsy, 48.
Intestines, Dr. Law on cancer of, 462.
Invalids companion to continent, *Rev.*, 434.
Iridectomy, Dr. Hildige on the employment of, 365.

Jaws, lower, Mr. Heath on causes and treatment of closure and immobility of, 323—Mr. P. C. Smyly on epithelioma and removal of portion of, 500—upper, excision of, Mr. Butcher on, 279, 288—Mr. Ferguson on do., 323—Gross on do., 324—Esmarch on do., 327.
John's, Dr., practical observations on the injurious effects of chloroform inhalation during labour, 353.

Kennedy, Dr. H., on a disease like measles from inoculation with fungi, 60.
Kidd, Dr., case of retention of a pessary for 13 years, 471.
Kidneys, Rasmussen on normal and pathological histology of, 219—vessels and circulation of, 219—parenchyma of, 221—interstitial connective tissue, 224—pathological changes in Bright's disease, 225—amyloid degeneration, 226—parenchymatous nephritis, 229—interstitial nephritis, 235—syphilitic nephritis, 237.
Kirkpatrick, Dr. J. R., on congenital nevus, 188.
Knee-joint, excision of, Butcher on, 269.
Kolk, Van der, views of, on epilepsy, 87.
Krause on anatomy and physiology of conjunctiva, *Rev.*, 157.

Labour, Dr. Johns on injurious effects of chloroform in, 353—Dr. Murphy on management of tedious and difficult, 420.
Laburnum, poisoning by seeds of, case by J. Popham, 248.
Lachrymal passage, anatomy and physiology of, Foltz on, *Rev.*, 157.
Law, Dr., on cancer of heart, lungs, &c., 304—on cancer of stomach, intestines, uterus, and ovaries, 462.
Lee on structure and treatment of uterine polypi, *Rev.*, 141.
Lithotrity in the female, 475, 476.
Lunatics, legal responsibility of, 454.
Lungs and heart, cancer of, 304.

M'Clintock, Dr., on dropsy of the ovum, 188—clinical memoirs on diseases of women, by, *Rev.*, 389.
Macnamara, R., case of poisoning by opium successfully treated with belladonna, 246.
Malleus, fracture of, 153.
Mamma, inflammation and abscess of, 404—cancer of, 460.
Mania, alternating with melancholia, 443—homicidal, 444.
Mapother, Dr., on tubercular peritonitis, 172.
Maxilla, case of excision of superior, by Mr. Butcher, 279, 288.
Measles, a disease like, from inoculation with fungi, 60—protection from, by inoculation of fungi, 66.
Medulla oblongata, state of, in epilepsy, 87
Meibomian glands, function of, 165.
Melancholia alternating with mania, 443.
Melanosis, case of, by M. H. Collis, 241.
Mental disease, treatment of, 457—powers in epilepsy, 94.
Menton, Price, Lee, Bennet, and Farina on climate of, *Rev.*, 434,
Mercury, use of, in syphilis, 7.
Midwifery, lectures on principles and practice of, by Murphy, *Rev.*, 418.
Milroy on health of navy, *Rev.*, 119.
Moore, C. F., case of diabetes, 252—W. D., translation by, of Rasmussen's paper on histology of kidney, 219.
Morgagni's description of prostate, 110.
Muret, Dr., account of large tumour removed from neck, 492.
Murphy, E. W., lectures on principles and practice of midwifery, *Rev.*, 418—on spontaneous evolution, 471—on placenta previa and detachment of placenta, 472.
Myocarditis, 311.

Nails, peculiar diseased condition of, 133.
Navy, Milroy on health of, *Rev.*, 119.
Neck, large tumour removed from, 492.
Nephritis, circumscribed or syphilitic, 237—interstitial, 235—parenchymatous, 229.
Nervous diseases of children, W. J. Cox on, 344—report on diseases of nervous system, 443.
Nevus, congenital, by Dr. J. R. Kirkpatrick, 188.
Nice, Lee on climate of, *Rev.*, 434.

Obstetrical society of Dublin, proceedings of, 177, 471.

O'Connor, Prof., on treatment of acute disease, 213.
Ocular appendages, anatomy and physiology of, 157.
Omphalocele, 99.
Operative surgery, Butcher on, 257.
Ophthalmia, gonorrheal, 5—reflex, 58.
Opium in mental disease, 457 — poisoning by, treated with belladonna, 246—in uterine hemorrhage, 431.
Otitis, 148.
Otorrhea, 148.
Ovariotomy, Dr. Beatty on, 183.
Ovary, cancer of, 463.
Ovum, Dr. M'Clintock on dropsy of, 188.

Palate, Mr. Butcher on double fissure of 292.
Paracentesis thoracis, Dr. Gordon on, 393.
Paralysis of children, 351.
Pathological society, proceedings of, 167, 460.
Pelvis, cellulitis of, 390—hematocele of, 398—inflammation of and abscess in the non-puerperal state, 393.
Perineum, lacerated, two cases restored by operation, by D. L. Roberts, 249.
Peritonitis, tubercular, Dr. Mapother on, 172.
Pessaries, modification of Hodges' lever, 477—retained in vagina 13 years, 471—use of, 393.
Physiological researches, by Edward Smith, M.D., *Rev.*, 405.
Phthisical persons, conditions affecting constitutions of, 11.
Phymosis, inflammatory, Mr. Fleming on, 497.
Pituitary body, state of, in epilepsy, 87.
Placenta, detachment of, before the birth of the child, 472—previa, 432.
Pleuritic effusion, cases of, by Dr. Gordon, 373.
Poisoning by laburnum seeds, case by J. Popham, 248—by opium, successfully treated by belladonna, case by R Macnamara, 246.
Polypi, of ear, 150—uterine, Lee on structure and treatment of, *Rev.*, 141—M'Clintock on, 397—mortality after use of ligature, 145.
Popham, J., case of poisoning by laburnum seeds, 248.
Pregnancy with procidentia uteri, 393.
Procedentia uteri, 393, with pregnancy, 393.
Prolapse of rectum, 414—of uterus, 393.
Prostate, Dr. Barton on diseases of, 170—third or middle lobe not a normal constituent, 108—Morgagni's account of, 110—hypertrophy of, 113—Thompson on diseases of, *Rev.*, 107—triticum repens in diseases of, 115.
Psychological medicine, report on, 443.

Quinlan, Dr., on lithotrity in the female, 476.

Rasmussen on normal and pathological histology of kidney, 219.
Remedies, therapeutic law as to use of, 2.
Renewal of life, clinical lectures illustrative of the restorative system of medicine, by T. K. Chambers, *Rev.*, 153.
Report on psychological medicine and diseases of nervous system, 443.
Reynolds, J. R., on epilepsy, *Rev.*, 83.
Richardson, B. W., asclepiad, clinical essays by, *Rev.*, 130.
Roberts, D. L., two cases by, of lacerated perineum restored by operation, 249.

Salaam convulsions, case of, 344.
Saw, Mr. Butcher's, 275.
Scarlatina, Cremen on, 478—Richardson on, 134.—propagation of, 134,
Scirrhus, atrophic, 461.
Scott, R. H., a handbook of volumetrical analysis by, *Rev.*, 123.
Scrophulo-tubercular disease, Corradi on modern increase of, *Rev.*, 115.
Skull, atrophy of, 452—fractures of, 140.
Smith, Edward, on constitution of phthisical persons in health, 11—recent physiological researches by, *Rev.*, 405—on respiration, *Rev.*, 405—on urea, 405—R. W., on hematocele of tunica vaginalis, 171—on fracture of acetabulum, 174
Smyly, Mr., on com. fract of humerus, 169—on operations for strangulated hernia and their results, 313—P. C., on a case of epithelioma and removal of part of lower jaw, 500—on treatment of stricture of urethra by the immediate plan, 80.
Solomon, J. V., on reflex disease of eye of traumatic origin, 58.
Speculum, ear, 147.
Stokes, Dr., on diphtheria, 175.
Stomach, Dr. Foot on ulcer of, 173—Dr. Hayden on cancer of, 469—Dr. Law on cancer of, 462.
Stramonium in mental disease, 457.
Stricture of urethra, treatment of, by immediate plan, 80.
Subclavian murmur, 131.
Suicide, 459—in Denmark, 459—in England, 459.
Surgery, operative reports on, by Butcher, 257—system of, by Gross, *Rev.*, 139.
Symes, Mr., on aneurism of aorta, 169.
Syphilis, arsenic and iodine in, 6—disease of cerebrum in, 457—and gonorrhea,

Collis on, 1—insanity and epilepsy in, 48—mercury in, 6—nephritis in, 237.

Tears, analysis of, 166—mechanism of their passage into the puncta, 157.
Tenner and Kussmaul, views of on epilepsy, 89.
Testicle, cystic disease of, Dr. J. S. Hughes on, 172—hematocele of tun. vag., R. W. Smith on, 171.
Thompson on diseases of the prostate, *Rev.*, 107.
Thumb, treatment of dislocations of, 140.
Todd, views of on epilepsy, 88.
Townsend, Dr., on disease of heart and aortic aneurism, 198.
Trachelismus in epilepsy, 86.
Trismus nascentium, 345.
Triticum repens in diseases of the bladder, 115.
Tröltsch on diagnosis and treatment of diseases of the ear, *Rev.*, 146.
Tuberculosis, prevalence of, 117.
Tumour, adipose, 468—fibrous of uterus, 395—malignant from gluteal region, 465—large, removal of from neck, 492—of vagina and vulva, 398

Urea, excretion of, 406.
Uremic coma, 136.
Urethra, treatment of stricture of by immediate plan.
Uterus, cancer of, 462—fibrous tumours and polypi of, 395—inversion of, 395—polypus of, 397—procidentia of, 393—removal of inverted, 395.

Vagina, tumours of, 398.
Vulva, tumours of, 398.

Water and air in relation to public health, Gairdner on, *Rev.*, 119.
Wenzel, views of as to epilepsy, 87.
Wharton, Dr., on a malignant tumour from the gluteal region, 465.
Women, clinical memoirs on the diseases of, by A. H. M'Clintock, *Rev.*, 389.

Yellowlees, Dr., on homicidal mania, 444,